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RURAL WORLD

COLMAN'S RURAL WORLD

DEVOTED TO AGRICULTURE HORTICULTURE HORSES CATTLE SHEEP SWINE ETC.

Established 1848. ST. LOUIS, MO. WEDNESDAY, OCTOBER 1, 1902.

Volume LV, No. 40

COLMAN'S RURAL WORLD.

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EDITOR.
Published every Wednesday, in Chemical building, corner of Eighth and Olive streets, St. Louis, Mo., at one dollar per year. Eastern office, Chalmers D. Colman, 530 Temple Court, New York City. Advertisers will find the RURAL WORLD the best advertising medium of its class in the United States. Address all letters to COLMAN'S RURAL WORLD, Chemical Building, St. Louis, Mo.

Subscribers should bear in mind that the RURAL WORLD is stopped when the time paid for has expired. To keep up a constantly increasing subscription list we allow old subscribers to send a NEW name with their own for one dollar, and to add at any time NEW names at fifty cents each—but renewals without new names are at one dollar a year. We also allow subscribers to club with the twice-a-week "Republic" or the twice-a-week "Globe-Democrat" at \$1.25 a year—thus securing two one-dollar papers at that very low price. We appreciate the kind efforts of our patrons in all parts of the union in speaking good words in behalf of the RURAL WORLD, and it is to these efforts we attribute our constantly increasing circulation.

MARKETING FARM PRODUCTS.

Just how far a farmer should go into the transportation business, after he has harvested his crops or prepared his finished product for market, is a matter coming up soon for consideration. Broadly speaking, a farmer should not engage in the transportation business at all. He has his hands full if he does his duty as a husbandman in growing crops, feeding stock, making butter or separating cream; picking cotton or shearing wool. No matter what branch of farming he is engaged in, it would seem the part of economic wisdom and of that great scheme—the division of labor, to limit the attention to production and leave the matter of getting the product to the consumer to those who make this industry a study and a specialty. This does not apply to the farmer who has a special clientele of consumers, to whom he delivers his produce without the intervention of the objectionable "middle man." This direct selling from producer to consumer is only possible in a small way, and with a moderate number of customers, as buttermilk, poultry, milk and garden truck, and in answering the limited demand of the small towns for hay, grain, butcher stuff, etc., supplied by the near-by farmers of the surrounding country.

There are several crops, however, which can be profitably disposed of in little lots to local markets. The apple crop, the marketing of which is now engaging the attention of Missouri, with her 20,000,000 bearing apple trees, is an example of a product that must be grown in large quantities and sold on the farm to be profitable. The apple crop is no longer likely to be profitable to buy barrels, engage extensive help, pick, pack and ship apples to large market centers. The middle man, or commission merchant, appraises the crop on the trees and pays for it in that condition. In Scotland pears are sold by the acre and are distributed by large enterprises capable of handling the crop without waste. Creameries are now gathering cream, thus saving the dairyman a daily trip.

Within a year a tendency has been noted on the part of cattle feeders to sell their finished steers direct from the feed lot to the packing houses. There is little doubt that this method of disposing of live stock grown for consumption will prevail within a few years. The spirit of economy which actuates all of the methods and dealings of the large meat packers is a sufficient guarantee of the above prophecy.

ARBORICULTURE.

A new exchange comes to our notice this month with the above title. It is a handsome little magazine published at Chicago by the International Society of Arboriculture. The appalling waste of vast forest areas by recent fires in Oregon and Washington serve to emphasize once more the need of some adequate method of preserving our present timber tracts. Forestry pertains to the management of forests, while arboriculture comprises forestry and also includes every subject relating to the growth of trees and their influence. The influence of forest areas on climate, rainfall, soil-making, river navigation and levee systems, and thus on the welfare and permanence of nations and peoples, is a matter for serious thought. The science of arboriculture treats of all these influences, and the United States govern-

ment is giving special attention through the Bureau of Forestry to the protection and extension of arboriculture. It is not necessary to go largely into the question of forest areas to become interested or useful in arboriculture. Every farmer, no matter how small his domain, may be a tree planter, and Arbor Day should be religiously observed, if it means but dropping one acorn in congenial soil. Planting trees in fence corners, an apple tree here and there will grow while you sleep. The old story is familiar of the grandfather who, after hearing his son and grandson sneer at the slow process of orchard growing, set out with his own hands trees from which he lived to enjoy many successive crops of luscious fruit.

If he who increases the hay crop by making two blades of grass grow where but one grew before is a public benefactor, how much more should the world honor the man who makes two trees grow where none grew before; besides, it pays.

COW PEA SEED.

It is too late to sow cow peas this year, but while the matter is fresh it may be well to call attention to a complaint that has been general during the past season. Many growers of cow peas, and particularly those who are making their first experiments in raising this valuable soil-renewing crop, have reported that with vines plenty they get no pods. To those who grow cow peas for seed or grain this is a serious defect. The cow pea generally lies in getting seed that is not acclimated. Southern-grown seed will rarely mature if planted in more northern climes. Northern-grown seed makes but an indifferent growth when sown in localities farther south. It is wise to procure seed from well-known dealers with a guarantee of its history. A northern field of cow peas from southern seed will often show a mature pod here and there, and these carefully gathered and planted will produce a fair crop the second year, and in three or four years will be thoroughly acclimated.

PEBBLES FROM THE POTOMAC.

Editor RURAL WORLD: The coal strike, now that winter is approaching, is engaging the attention of the public in general. Various plans have been suggested as to how the difficulty could be best settled, but as yet no practical solution has been offered. It appears at this writing that the fight between the capitalists and the laborers will be fought to a finish, unless the trouble is settled by arbitration. In the meantime the laboring element must naturally exhaust their resources, while the mine owners, however, are adding to the price on the product and the public must pay the freight. The farmer, with a wagon and a few acres of forest, is happily independent of the black diamond wrangle, but to the dwellers of a city like Washington, where anthracite is the universal fuel, the anthracite strike is a serious aspect. Thirteen and fifteen dollars per ton are now asked for anthracite here. Wood is keeping pace with the price of coal, advancing at \$3 per cord; oak, \$5, and hickory, \$10. At these prices it seems a burning shame to utilize fuel for heating purposes.

A WHOOPER.—"Fortify yourself for a whooper. I am about to make a statement which goes any yarn I have ever heard about European farming one better," were the introductory remarks credited to Mr. C. B. Rollins, of Columbia, Mo., to a "Post" reporter recently. "I saw peasants in Switzerland standing on ladders to plant corn. The hillside they were utilizing was so steep that they could not stand on it and had to use ladders. I was astounded when I saw what the farmers were doing and watched them for some time. They reached as far as they could from both sides of the ladder they were using and then moved along the hillside with infinite patience. * * * Every inch of ground was cultivated with the greatest care. * * * The Swiss and German peasants manage to make a living on a piece of ground which would be regarded as only a small patch in this country."

From the above account we can readily believe that America is the ideal farming country in the world. With the latest improved agricultural implements, vast prairies and the markets of the world reaching out for his harvest, we are again reminded of the American farmer's pre-eminence as a valuable factor in the equation of the world's affairs. A GOOD IDEA.—The innovation introduced by the RURAL WORLD in presenting, from time to time, the pictures of men who have become prominent in the agricultural world, is but another striking proof of the RURAL WORLD'S desire and ability to keep abreast of the times. The address, accompanied by a picture of Secretary Wilson, in a recent issue, was instructive and appreciated by the reading public. We trust that many more pictures of agricultural experts will appear in future numbers of America's

(and the world's) leading agricultural publication—COLMAN'S RURAL WORLD. BOOKS.—It is said that the libraries of Washington contain more books on special subjects than any other city in the world. Aside from the magnificent Library of Congress, the different departments have individual collections of literature for the use of its employees. The State Department was the originator of this plan, having been established by Thomas Jefferson. This library now contains some 70,000 volumes, many of which are valuable, containing the autograph of the first Secretary of State. The Library of Congress, aside from its vast collection of books, contains a rich store of manuscripts, public letters, documents relating to the affairs of government, etc., forming a collection of untold value of literary wealth. The Department of Justice has a collection of some 50,000 volumes. The postoffice library is unique in the fact that it "created itself," so to speak. This library was established some fourteen years ago, the books being rescued from undelivered mail that, failing to reach its proper destination, was returned to the dead letter department. From this source some 15,000 copies have been secured, and without costing Congress a penny for books. The Patent Office has a collection of some 70,000 volumes, ranking as one of the finest collections of scientific works in the world. The Agricultural Department is accorded the distinction of possessing the largest collection of the department libraries. It contains nearly 90,000 books, exclusive of government publications. These books are almost entirely of a scientific nature. An appropriation of the present fiscal year carries \$3,000 for further augmenting the collection. The library of the Army and Medical Museum contains the largest and best collection of medical books in the world. This library is open to all physicians and representatives of this profession from all sections of the globe are constantly engaged in studying its priceless contents. These libraries are liberally patronized by the employees of the various departments, and prove an effective factor in the intellectual advancement and recreation of the thousands of government employees in Washington.

WINTER.—Today has every characteristic of autumn, and warns us that winter is rapidly approaching. Our flowers and palms have been brought in for fear that Jack Frost might play his pranks on the tender buds. The sky at times is black with feathered warriors on their way to the rice fields of the Sunny South. The maple is taking on its tinge of crimson and gold. In the woods the walnuts are dropping, and the red bird, like some reincarnated Indian spirit, flits from hill to hill. The breath of frosty air from the hill tops reminds our eyes of the past. The winds sigh through the branches of the tall trees, while

"Afar, from yonder beech trunk, sheers and sterile.
The rat-tat of the yellow hammer's bill;
The sharp staccato barking of the squirrel—
A dropping nut, and all again is still."
S. F. GILLESPIE.
Washington, D. C.

CEDAR HILL JERSEY FARM NOTES.

Editor RURAL WORLD: While engaged in Institute work this fall in Missouri I took particular notice of the forage crops, their condition and methods of handling. I saw a large amount of sorghum, but in most cases the wrong varieties were planted. The results were a light yield per acre and badly lodged condition. I was in four counties in Kansas also and found the same conditions of the sorghum crop there. I was pleased to see that most of the crops were in rows, which is much the best way to plant sorghum. It can be cut with the greatest ease by a mowing machine, and the yield is fully as much and in most cases more.

At present time my boys are cutting our crop of orange cane, and the yield is greater than any crop I have ever before harvested. Bundles lay each other and weigh 40 to 50 pounds each. The plants stand up well and the binder does fine work. We are very fortunate in having this crop, as our corn fodder is too dry for the silo, and sorghum run in half and half with the corn, makes the moisture right for good keeping silage.

The orange variety of cane makes larger yields, stands up better, and the seed heads are much heavier than the amber or other varieties. At nearly all of the Institute meetings I saw cow peas of fine growth, showing that the cow pea is a good crop to plant in the northern part of Missouri. I cannot think of a more fortunate man than I ever saw, and in conversation with the growers I learned that they fully appreciated its great value as a supplementary pasture or soiling crop. One man who had ten acres reported that 150 hogs could keep the crop down and he had turned thirty cows in to help out the hogs. He plans to sow forty acres the coming spring for his steers. Such men are the ones who help themselves and make Institute meetings interesting.

ADORNING SCHOOL GROUNDS.

The August number of that valuable magazine, "The Outlook," gives a vivid description of school grounds, both of our country and those of Europe. The writer is a strong advocate of this seemingly new departure in popular instruction, presenting valuable objects, lessons of useful plants and the principles of their culture to the youth through the school's elementary and of higher grade, with which the land is so universally blessed.

The RURAL WORLD greets with pleasure every co-worker in the advancement of a cause to which it has devoted so many columns of its issue. Nature study and instructive school grounds have long been a household word in its columns and amongst its philanthropic readers. The senior editor while entrusted with

LANDSCAPE DECORATION OF THE APPROACH TO POLYTECHNIC SCHOOL, STUTTGART, GERMANY.

the administration of the National Department of Agriculture, issued a circular letter to the presidents and regents of the universities and colleges of the country, inviting their attention to the imperative necessity of adopting a more rational and progressive plan and system in the use and treatment of the spacious grounds surrounding a majority of the state colleges. The writer was offered the assistance of the Division of Forestry in designing plans of modern improvements, with information as to useful and artistic planting. The many responses received at the department endorsing this appeal and promising early adoption of the plan suggested may well be taken as a testimonial of the interest that might be awakened within the councils shaping the future of education. Intervening change of administration, however, relegated the timely proposition to the rear. May the old truism "Truth crushed to earth shall rise again," be happily materialized in this instance.

It is surely a rational proposition that the schools of our agricultural districts should be equipped with plots of ground devoted exclusively to the culture of a variety, limited or extensive, of economic plants in which agriculture and horticulture are primarily interested, together with a modest display of flowering plants and shrubs, most welcome in the embellishment of the home grounds of the people. What a volume of useful information as to names and best modes of culture could by this means be imparted to the juvenile mind. It would indeed be the initial step in disseminating practical knowledge in every branch of plant culture, and what an interest the boys and girls would take in these miniature fields and gardens of their own.

The writer of the valuable paper referred to above calls special attention to one imperative necessity preceding the introduction of object lessons as a basis of instruction, and this is what we call in Missouri "marshalling the teachers." In other words, laying the foundation for future school gardens first on the institutions in which the future teachers are trained and prepared for their mission.

Our normal schools and colleges would thus have to submit to a course of instruction outside of their cherished volumes of science and literature. The spacious grounds surrounding them will have to be remodeled to some extent to become an out-door textbook, a lesson in itself; but not in a good-natured way of experiment by the professor of botany, but by some one who knows what he is about.

demanded in our day cannot be traced exclusively through the telescope of the transit and the level.

A MISSOURIAN IN THE LONE STAR STATE.

Editor RURAL WORLD: The "Lone Star" state of Texas always impresses me with awe for its immense size, wonder at its great agricultural possibilities and a yearning desire to forecast its future. Twenty-one years ago I was detailed as special to report the agricultural conditions of the North American continent for a leading Scotch daily, and twenty-one years ago this month I was "doing" Texas. A reminiscent mood seizes me as the flying "cannon ball" speeds eastward over the fertile Dallas prairies—the gar-

waters of the above-named rivers erosion has denuded this overlying strata and laid bare the rich red soil of the lower strata, with its alkali water.

This soil extends southward and eastward from the brakes of the plateau for about two hundred miles, and furnishes the red silt which distinguishes the Brazos, Red and Indian Territory rivers, and also the rich wheat fields of the lower Panhandle country and upper Red river valley, as well as the nutritive pastures of mesquite grass. This formation runs into the coal measures on the Texas & Pacific railroad about Abilene. Then comes an irregular, broken surface, with sandstone cap, and where denuded the variable clays and shaly soils of that series, followed by large stretches of limestone, gravelly soils in the districts of Weatherford and Fort Worth, east of

NEWS AND COMMENT.

Hard coal still \$30 a pound and none to be had. If the strike don't end pretty soon the farmers of the West will be obliged to burn hickory.

The yield of corn this year will exceed 2,000,000,000 bushels. So say the experts of the Agricultural Department. This beats the record, the nearest being that of 1896 with 2,385,000,000 bushels.

Just as we went to press last week President Roosevelt abandoned his Western tour and was taken back to Washington on a stretcher, as the result of injuries received in the street railway accident at Pittsfield, Mass. It will be a great disappointment, to the president more than any one else. But above all the people hope for the speedy recovery of the chief.

As an illustration of the intricacies of the work of the Agricultural Department we record the establishment of a dendrochemical laboratory in co-operation with the Bureau of Forestry and that of Chemistry. This new office will devote its entire attention to the study of forest chemistry. If they can discover some chemical that will extinguish the forest fires raging in Washington and Oregon the people will rise up and cograte dendro in the halls of fame. By the way, "dendron" is a Greek word meaning "tree."

Of the \$552,000,000 worth of farm produce shipped from the United States in 1901, more than half was sent to the British market. The principal items in order of importance are cotton, wheat, wheat flour, corn, live cattle, fresh beef, bacon, hams and lard, followed by a long list, including silk worm eggs, broom root, quills, oleomargarine, compressed food, cut flowers, yeast, teasels, straw, root beer, bristles, egg yolks, peppermint oil and cognac. Verily Uncle Sam is running the biggest food and clothing emporium on earth.

Hayti, Colombia, Venezuela are in the throes of political eruption. Revolutions are periodic in Latin-America, or rather it is a continuous performance, where they are scarcely off with the old turn before they are on with a new. Uncle Sam says to all his wealthy neighbors "keep your hands off those youngsters in my back yard." The Monroe doctrine among you one better and keep the peace among those hot-blooded and child-like races who have only entered the kindergarten class in self government. And it begins to look that way.

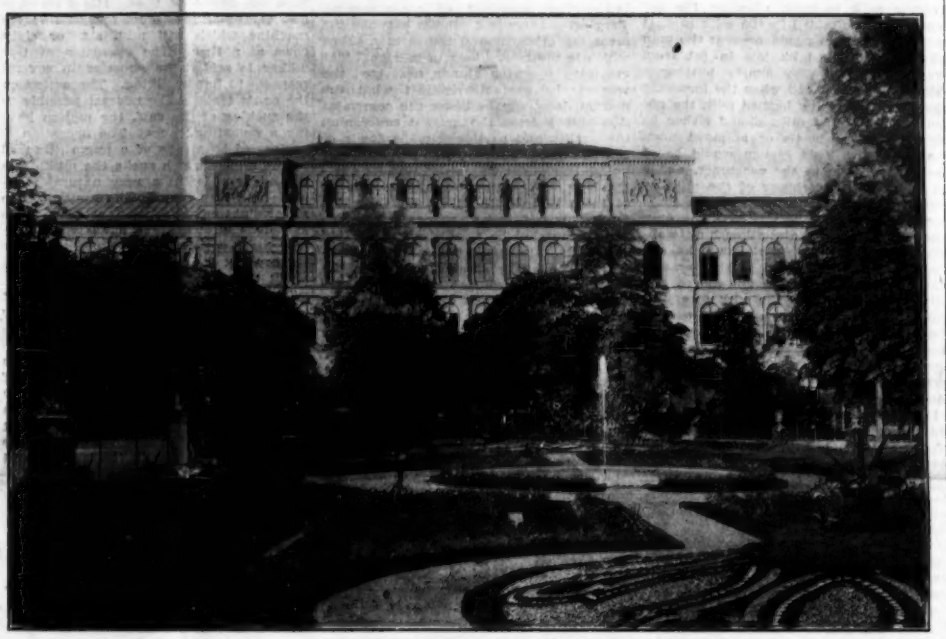
Pearry, the Arctic explorer, has returned without the pole; also minus seven toes. He thinks he will keep the remaining three by staying in a temperate climate the balance of his life. A tremendous amount of energy is expended by adventurous and curious folk in trying to write their names on a little higher parallel. It's like every other enterprise on earth—the fun of trying for it is greater than the value of the thing after you've got it. Who wants an old pole, anyway? J. P. Morgan would have it syndicated in three weeks and add it to his other cold propositions.

A census report shows that there is considerably less illiteracy among children between 10 and 14 years of age than there was ten years ago, and this is rightly interpreted as evidence of the increased efficiency of the school system. In many states the number of such children who cannot read and write is hardly appreciable. Missouri shows a percentage in 1890 of 94.68 and of 96.61 in 1900 of children between the ages named who can read and write. The list ranges from 96.61 in Nebraska, where they are asking for 250 school teachers at \$30 a month, to 67.12 in Louisiana.

Those hustling Chicago promoters are ambitious. They announce in a Chicago daily that "World Rule is the Aim of the New Farmers' Trust." We notice that most of the gentlemen who propose to open the world's oyster with the pry of a "Farmers' Co-operative Association" are not farmers, but seem to be connected more or less with the grain commission business on the Chicago Board of Trade. We do not wish to discourage philanthropy among the kind-hearted "friends of the farmer," but it may be well to remember the classic warning "Beware of the Greeks bearing gifts."

The Secretary of Agriculture has observed that an increase of one bushel per acre in the average yield of American wheat would add enormously to the wealth of our country. We might have added, with equal truth, that the advantage of this increased production would be minimized unless remunerative markets could be found for the increasing surplus, and as it is the peculiar field of the Department of Agriculture to increase crops, so it is the special duty of the consular service to seek for new markets.

Our consul at Marseilles, France, Mr. Robert P. Skinner, has written a very interesting and what will doubtless prove to be a very valuable piece of literature, issued under the wing of the Bureau of Plant Industry Bulletin No. 20, on the "Manufacture of Semolina and Macaroni." Macaroni wheat has been grown in this country in increasing quantities, and by acquiring the art of making it into the various forms of spaghetti, noodles and others of the macaroni family, we shall soon be turning our own special grown cereals into specially prepared forms quite as good if not superior to the imported article.



The Dairy

THE DUAL PURPOSE COW.

"Prof. Carlyle, of the Wisconsin Experiment Station, has in a recent contribution to the agricultural press given some facts with reference to a grade Shorthorn cow kept at the Wisconsin station which are worthy of a wider publication.

"The cow during the first year at the station made 215 pounds of butter; during the second year 326.4 pounds; and the third year 423 pounds. This is one side of the story. Her calf, twenty-seven months old, was slaughtered at the International show last fall and weighed, after shrinking, 1,540 pounds; he was sold for \$108.20.

"The above is not an isolated case. It is easily possible to develop in time a dairy herd of Shorthorn cows that will give 200 pounds of butter per year. This can be the course of time be advanced to 250 pounds, to 300 pounds, and possibly over. These cows will produce calves which, raised by hand, fed on a well-balanced ration, and properly fed out at thirty months old, will weigh 1,400 pounds and bring within fifteen or twenty cents of the very top of the market.

"This has been our contention, now these many years, and every year brings more convincing proof in quotable form of the correctness of our position. This type of cow is not the cow with which a man allows the calves to run. He wants a cow that will answer his purpose with a good deal less trouble. It is not the cow for the special purpose dairyman whose sole aim is to produce pounds of butter and who cares nothing whatever for the steer calves. It is the cow for the quarter or half section farmer who wishes to get profit both from his milk and his beef, and does not expect to get the very highest from either one or the other.

"Notwithstanding all that has been said by special purpose advocates, there is a dual purpose cow, a dual purpose sheep, and a dual purpose chicken, where the sum of the profits on two sides exceeds the profit on either one side or the other."

"The weak spot in the above is that by inference, at least, the \$108.20 steer is credited to the dual purpose dam when logically he should be credited to the feeder who took a five-dollar calf and made a fine piece of beef of him. A Jersey or Holstein calf is worth nearly as much for veal at three weeks as the calf from the average dual purpose cow. It seems to us that all the argument in favor of the dual purpose cow is an argument against thorough breeding.

"The thoroughbred of the dairy is a creature of selection and cultivation, beginning with the native or wild stock and developing certain characteristics for a definite purpose. The definite purpose which the breeders of Shorthorns, Herefords and Angus, have invariably held in mind, was the production of a quickly maturing type for the block. Always beef and no thought of making a work animal or a butter producer. On the other hand, the people of the Channel Islands, in developing the Jersey and Guernsey breeds and the Dutch and German breeders of the whites and the blacks, and ultimately of the combination Holstein-Friesian, forever had one thought, and that was to evolve out of the original type, without regard to beef possibilities, a style of cow that would do great things at the pail.

"These two types of cattle are antagonistic in that one faculty must invariably be sacrificed to the other where the highest degree of perfection is the aim. Do the advocates of dual purpose offer any specific breed which excels in both butter and beef? None of the breeds mentioned above will win prizes except in the specialty of each, and that is what they are made for—to excel in one thing. You can't eat your cake and have it, too.

"The beef grades, perhaps, more nearly approach the dual purpose ideal than do the dairy breeds, although a Jersey at the block is about as inspiring a sight as a Hereford at the pail.

"It will be noticed that the advocate of the dual purpose cow is invariably an individual with beef predilections. In his zeal for his pet he is apt to fudge. He knows he is better than any other as a beef maker, and he tries to make himself and others that he is a milk producer. The profit in milking cows lies between the fairly good and the extra good, and if any farmer expects to milk and make money he can not afford to keep any but the very best. If he wants to fatten some steers also, let him buy calves or feeders of the very best beef breeds and only then will he find that the profit on two sides exceeds the profit on either. It costs as much to raise and fatten a steer as to keep a good cow in full flow of milk. In two years a top steer may bring as seen above, \$108.20. A good milk cow will produce 700 lb. of butter in two years, worth, at 20 cents a pound, \$140, and the dairy farmer still has an animal left that is worth at least \$50. Finally we deduce two conclusions: first, that dairymen pays better for the amount of capital invested than beef raising; second, that the dual purpose animal, whether cow, sheep or chicken, is a scrub and not a thoroughbred.

STANDARD MILK AND CREAM.

The only apparatus necessary to standardize milk is a cream separator and a Babcock milk test. Surely no dairyman who has a business of any consequence can afford to be without these machines. For dairymen handling but a small amount of milk the same results may be accomplished by setting the milk for a time and skimming off the cream. In this all that is necessary is a Babcock test which may be obtained from any milk supply house. In this way skim milk containing practically no fat

Dyspepsia

What's the use of a good cook if there's a bad stomach—a stomach too weak properly to digest what is taken into it?

The owner of such a stomach experiences distress after eating, nausea between meals, and is troubled with belching and flatulent headaché.

"I have been troubled with dyspepsia and have suffered almost everything. I have tried many different remedies, but could get no relief until I began taking Hood's Sarsaparilla. After the use of this medicine I could eat without distress, and today I am as well as ever, but I always keep Hood's Sarsaparilla on hand." Mar. J. A. COWELL, Canajoharie, N. Y.

Hood's Sarsaparilla and Pills

cure dyspepsia, strengthen and tone all the digestive organs, and build up the whole system.

must be added or removed. If the skim milk used contains fat, proper allowance must be made according to the amount of fat contained or the results will obviously be different. Water cannot be used to dilute the milk or the per cent of solids not fat will be reduced.

As the per cent of casein, milk, sugar, and mineral matter are practically the same in milk containing different amounts of butter fat these are not considered in the following table. From this table it will be seen that a law compelling a man to standardize the milk and cream he sells would result in justice to both producer and consumer. All dairymen who receive legitimate prices for their product according to its food value and cost of production and would not be selling 6 per cent milk in competition with 3 per cent milk and for the same price per quart.

Relative value per quart and number of quarts in a dollar's worth of milk or cream of the following composition as to fat, computed according to the food value of 3 per cent milk at 5 cents a quart.

Per cent of fat.	No. quarts a dollar's worth of milk will buy.	No. quarts a dollar's worth of cream will buy.
0.1	2.8	35.7
1	3.5	28.6
2	4.2	23.8
3	5.0	20.0
4	5.7	17.5
5	6.4	15.6
6	7.2	13.9
7	8.0	12.5
8	8.7	11.5
9	9.5	10.5
10	10.2	9.8
11	11.0	9.1
12	11.8	8.5
13	12.5	8.0
14	13.2	7.6
15	14.0	7.1
16	14.7	6.8

The objection may be raised that this system would be more difficult to control and would require more inspection than a single minimum standard, but upon careful consideration it will be seen to be no more complicated. Every milkman should be compelled to have brass figures soldered on the outside of his can, if delivering milk in bulk, showing the per cent of fat contained in the milk in that can. This system would prevent the man who was selling milk low in fat from evading the law by simply putting a "skim tag" on his can when the inspector appeared. In selling bottled milk the per cent of fat in the milk should either be blown into the bottle or stamped upon the pulp cap. This system would be of great advantage to the consumer, as he would know the richness of the milk he was purchasing and not be paying for 6 per cent milk when he was receiving only 3 per cent. It would also allow him to obtain milk of the richness he desired, and the producer could afford. If this system were in practice it would not compel the shipper who produces the milk to standardize it, but he would sell it by test to the city dealer or milk depot where it would be standardized. The shipper would not be pooling his milk, but would receive a price according to its food value and the cost of production.

Milk for direct consumption should not only be standard in composition, which is of economic importance, but it should be standard in cleanliness as well, as this affects the health of the community. Much milk is produced under such unsanitary conditions that it is unfit for food. Any milk that shows a sediment on the bottom of a transparent vessel upon standing one hour, is not fit for human food. All milk for direct consumption should be produced under rigid inspection, requiring that the udders be washed before milking and that the cows be kept clean and the barn in a sanitary condition; also that the cans and utensils be thoroughly washed and sterilized after each using. Any system which insures milk of standard value and free from contamination with, of course, adds some what to its cost, but it will also add to its value for use by healthy people and it is of the utmost importance that it be of the highest quality.

Such a system is of advantage not only to the consumer, but to the better class of dairymen as well, for it puts a value upon their painstaking care; indeed, they need it as a protection from unscrupulous and careless competitors. It is of disadvantage only to the slovenly dairymen who are always a menace to the public health.

BABES STARVED ON CONDENSED MILK.

According to the Brooklyn, N. Y., "Eagle," Dr. Raymond, of the board of health of Brooklyn, investigated the 663 deaths among children under two years old due to cholera infantum, diarrhoea and other similar diseases. He ascertained that fully 50 per cent of these children had been fed on condensed milk. 10 per cent were nursing infants, and the remainder were nourished by various prepared baby foods.

"Most of the condensed milk used was of the canned variety, depending on the large amount of sugar in it to preserve it. The mothers were accustomed to dilute this in ten parts of water. In this form it was fed to the child. Owing to the sweetness of the mixture, the children liked it, of course, and seemed to thrive, as the sugar fattened them.

"But there is a preponderance of casein in condensed milk which is not digestible. There is also an absence of fat. Hence, the children, who had been fed with this food, presented broken-down systems to the summer heat and could not stand the strain. Death followed."

Be this as it may, it emphasizes the necessity of making a standard of the condensed milk. The food laws should make it a punishable offense for a condenser to buy rich milk, to skim it, to sell the butterfat as cream, and to condense the skim milk and load it with sugar, and sell it as food for children in particular.

Parents should be made to understand the danger of feeding their infants on that sort of diet. If the law compelled the condensers to label their product "Condensed Whole Milk," or "Condensed Casein," or "Sugar-Loaded Casein," or whatever else it is in reality, it would be a good thing all round for the producers and the consumers of milk.

Probably, when city health authorities turn their misdirected zeal away from perfectly harmless bacteria in milk to the chemical and mechanical make-up of condensed milk, so-called, they will discover what many intelligent observers suspect, that the "condensed" stuffs are what really cause much of the infant mortality now erroneously charged to the bacteria found in great numbers in liquid milk.

Dr. Raymond, quoted above, has indicated a line of investigation worthy to be pursued by the health officials of New York City, Boston, Buffalo, Philadelphia, Chicago and other centers of population.

TESTING THE COWS.

Before weeding out stock of the dairy an actual test of each cow should be made and conducted over a period of several months. The test should be made in a good old-fashioned curing room until it was from twenty to thirty days old. If not properly cared for and cured, the best made cheese will lose its nutty flavor which no swaggar of salesman will ever recover.

Can such perfection in cheese be uniformly secured? My wife has made plenty of such cheese and she says, "Yes, of course it can. What has been done can be done again. I was just as certain to make good cheese from good milk as a competent miller is to make good flour from good wheat." The result is, "The result is to be the basis for determining the value of the milk produced by dairymen. And yet, strange as it may seem, with many who have in their hands the matter of testing milk for the public, say in creameries patronized by a number of dairymen, there seems to be an idea that the real purpose of testing milk is to see how far away from the truth they can get and not be caught at it.

Does this mean, then, that the Babcock test can be, and is, juggled with? It does mean just that. It ought to be an impossibility for such a thing to be done, but it is done. It is done by the dishonest, as a piece of mechanism the testing-machine is as nearly perfect as anything can be. But here comes in the trouble. For reasons of their own many creamerymen want to favor certain patrons. To do it they read the test higher than the warrant. The dishonest creameryman may be kept up for a time, but in the end will be exposed.

I have in mind now a certain creamery which has systematically, so it is asserted and never satisfactorily disputed, given certain advantages in the way of testing milk to favored patrons. The dishonest man who might be inclined to send his milk to another creamery. This inducement has had the effect of holding these men. Is this right? Every one knows it is not. It is just as much fraud as if the managers of those creameries were running a bucket-shop.

Sometimes the creameryman may be deceived himself. The acid he uses may be too strong or too weak. In the one case it will burn the butter-fat out of the milk, and in the other it will leave some of it in the milk.

How is this to be avoided? How can we be sure we receive just that to which our milk entitles us? This is an important question. Many states have thrown all possible safeguards about the testing of milk. They have passed laws regulating the bottles used in testing. They have said that acid must be made so and so. And the inspectors go on and on.

The best of all things I know to bring unscrupulous creamerymen to their senses is to have our milk tested at the nearest experiment station, and if any marked discrepancy is found we can take our milk away from the man who is deceiving us, and make it up at home or send it to some creamery which does business honestly.

HIS SCHEME FAILED.

Several years ago and a few months after manufacturing had commenced, the business office of the Monarch Rubber Company received a visit one bright morning from a person who bore all the appearances of a prosperous business man. He inquired for one of the officers of the company and presented a letter of introduction, purporting to have been written by the president of the city of St. Louis, and he stated that having heard of the establishment of the factory and being curious to witness the process of making rubber boots and shoes, had taken advantage of a visit to the city to request an inspection of the methods employed.

Of course, the curiosity displayed was natural and the official to whom the letter was addressed, never once doubting the legitimacy of the gentleman's call, offered to show him through the works.

They first visited the warehouses; the finished goods were examined, the rules of the various styles discussed, and they proceeded to the packing rooms, etc., until the storerooms were reached. Here the stranger seemed much interested, asking various questions and, critically scrutinizing the piles of crude rubber requested a bit as a souvenir. An affirmative answer was given, the gentleman took out his pocket knife, wet it with his lips and was about to cut the crude gum, when the official realized the game sought to be played and required the man to at once accompany him to the office. However, the fellow made a quick break for the street and escaped.

Now, as to the object of the spy and the cause of his detection: From the first, the Monarch Rubber Company (who are not in the combination) have employed a much larger percentage of pure rubber in their products than the trust and their secret methods of effecting this result and the special machinery employed formed sufficient incentive for interested parties to induce sending a spy into camp, as it were, and his forged letter of introduction would, perhaps, have accomplished the object except for the fatal mistake in getting his knife before attempting to cut crude rubber, as this conclusively showed his familiarity with the business.

This concern are the manufacturers of the "Buckskin" brand of rubber boots and shoes, having in mind the fact that the quality, though no higher in price than common goods, and they will gladly send readers a beautiful booklet free. Hand-some engravings are contained in it from photographs showing the processes of gathering, and preparing, crude rubber in the Brazilian forests, as well as much to interest the reader. A copy will be promptly forwarded by addressing the Monarch Rubber Company, 490 Bittner Street, St. Louis.

GRAIN RATION.

The amount of milk produced by a herd of milk cows does not always depend upon the grain ration. Says the "Rural New Yorker": Early cut hay, not too coarse, taken in without rain or too much drying, if it has kept nicely, will produce a good flow of milk with much less grain than that which has ripened more. This we had a chance to test recently, when changing from a mow of early cut hay. There were a few loads of late cut on the second mow and this kind of hay, although sweet and nice in every respect except that it was cut late, caused a falling off of from 15 to 20 per cent in the milk. The cows regained the loss after we drew the late cut hay to the horse barn, and commenced feeding the cows on the early cut down a little in the mow. It has been stated in reputable papers that the early cut hay contains more protein than that cut later in the season. I asked the speaker at the

brick for the front wall, must be as near perfection as possible. In the first place, it must be "full cream" to insure quality; mild, sweet flavored to be palatable; firm without being dry; mellow without being soft; made cheddar shape and weigh from fifty to sixty pounds when cured. It should be taken care of by the maker in a good old-fashioned curing room until it was from twenty to thirty days old. If not properly cared for and cured, the best made cheese will lose its nutty flavor which no swaggar of salesman will ever recover.

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PLEASE TELL ME WHO NEEDS MY BOOK.

I ask you for the name of a friend who needs help—that is, a friend who needs my book. Just send me a postal to tell me the book he needs. No money is wanted. Do that much and I will do this: I will send him the book, and with it an order on my druggist for six bottles Dr. Hooper's Restorative. I will authorize that druggist to let the sick one test it for a month at my risk. If it succeeds, the cost is \$5.50. If it fails, I will pay the druggist myself.

There was never a sick one who could refuse such an offer—and I am very glad to fulfill it. My records show that 39 out of each 40 pay for the medicine gladly. I may just as willingly when one says that I have failed.

The reason is this: After a lifetime's experience I have perfected the only remedy that strengthens the inside nerves. These nerves alone operate every vital organ; and no weak organ can be well rested until the nerves are restored. I want those who need help to know it.

For his sake, please tell me some sick one whom common remedies don't cure.

Simply state which book No. 1 on Dyspepsia, No. 2 on the Heart, No. 3 on the Kidneys, No. 4 on Women, No. 5 for Men (sealed), No. 6 on Rheumatism, No. 7 on the Stomach, No. 8 on the Lungs, No. 9 on the Blood, No. 10 on the Nerves, No. 11 on the Skin, No. 12 on the Bones, No. 13 on the Muscles, No. 14 on the Brain, No. 15 on the Senses, No. 16 on the Voice, No. 17 on the Sight, No. 18 on the Hearing, No. 19 on the Smell, No. 20 on the Taste, No. 21 on the Touch, No. 22 on the Pain, No. 23 on the Fear, No. 24 on the Anger, No. 25 on the Love, No. 26 on the Hope, No. 27 on the Despair, No. 28 on the Joy, No. 29 on the Sorrow, No. 30 on the Grief, No. 31 on the Shame, No. 32 on the Honor, No. 33 on the Wealth, No. 34 on the Poverty, No. 35 on the Health, No. 36 on the Disease, No. 37 on the Death, No. 38 on the Life, No. 39 on the Soul, No. 40 on the Spirit.

MILK COWS IN HEAVY FLESH.

It is a stock argument among many dairymen who believe in the special purpose cow, that it is extravagant to use animals that will place part of the food in the milk pail and part of it on the carcass in the form of beef, says "Text as Stock Journal." That part which is converted into meat, they claim, is of no value whatever, owing to the fact that it is not so palatable as the meat from animals that will place part of the food in the milk pail and part of it on the carcass in the form of beef, says "Text as Stock Journal." That part which is converted into meat, they claim, is of no value whatever, owing to the fact that it is not so palatable as the meat from animals that will place part of the food in the milk pail and part of it on the carcass in the form of beef, says "Text as Stock Journal." 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Horticulture

HORTICULTURAL TALK.

STRAWBERRY NOTES.—Fill up the vacant spaces with the clumps of plants taken from rows of plants containing plants of the same variety. If rows are too wide, narrow them by throwing out plants where they are too wide. Keep the ground between rows stirred, but curbed shallowly.

BUDDING.—ROSES.—Some years ago upon learning that my favorite flower could be propagated by the convenient method of budding, I began to practice upon the wild rose stocks that were found growing about the pasture, woods and fields of my old home. My first attempt was with a florist friend had recommended. The budding was done in June and a month later I had the pleasure of showing my friends specimens of the finest roses they had ever seen. These were budded through three to four feet high, and were bent to the ground and covered with leaves. They wintered and the next year were a picture of marvelous beauty, and their fragrance was appreciated by all who came near them. It was a rare pleasure to go through our pastures and find growth through our pastures such choice roses as Mrs. Nellie, Gen. Jacquemont, Baron de Stettin, Paul Neyron, Champion of the World, Crimson Rambler, etc. The tender varieties like M. Nell were bent down in the fall and covered with leaves, each year gaining strength and adding to their volume of growing seedlings of some of the favorite varieties. The first lot was bent down by Hermosa. From bent lots I got a very fine, perfectly hardy number of them. They have been numbered No. 1 and No. 2. No. 1 is the Jack-Carnot seedling, a rampant grower and perpetual bloomer. Blossoms produced on long, stiff stems. Buds are pointed and very beautiful. Same color as Antioch Beauty. No. 2 is same color as Antioch Beauty. No. 2 is same color as Antioch Beauty. No. 2 is same color as Antioch Beauty.

This rose is one of the most remarkable varieties one could imagine. It bloomed three weeks after the seed germinated and has not been seen without bloom since except during the dormant season. This seedling has the habit of some like Hermosa, only more so, of blooming so persistently that it does not make any wood growth. The color of this one is a clear, rose pink. Buds are pointed and very graceful. Two months ago I laded a number of both the above vigorous stocks and sent them to a friend, a better chance to test them. I put about a bush of these two and grew but one. Some of them have made a growth of six inches and are about to bloom. Nearly all of my seedlings are more or less beautiful, though a few are sterile; barren. Some are perfectly sterile, but are quite pretty, nevertheless, and bloom the whole season through.

HANDLING THE KIEFFER.—To make the most out of Kieffers or late apples the grower should be in a position to handle the crop himself and not time his hands full of other work at the time the apples are not ready to handle. The grower should himself and observe every detail, the best thing would be to sell the crop on the trees and give some shipper the profit which otherwise the grower might have. The Kieffer should be picked with the stems on. Nothing but perfect fruit should go into the market. It should be first-class, and any that is inferior should be sold separately, if at all. If fruit is perfectly sound, free from scab and well colored, it will pay to hold it, providing good cold storage facilities are at hand. Where orchards are small and there is a local market, it may be best to store in a cool cellar and pack in neat packages as the fruit ripens. The best way to store for this purpose is to place fruit on shelves, or in shallow boxes, which may be stacked on top of each other. The object of storing in this way is to be able to pick out the ripe fruit without disturbing that which is not ready. If this pear is tumbled about after being in storage, it will soon tarnish and become unsightly. This method of handling the Kieffer applies only to the one who has the time, a suitable cellar and will attend to the business right.

THE WEATHER.—We have seen very little sunshine for over a week, and have had more or less rain during that time. There is a great deal of hay down in this vicinity which is in bad shape, and will soon spoil if rainy weather continues.

EDWIN H. RIEHL.
North Alton, Ill., Sept. 23, 1902.

PLANTING, CULTIVATING AND PRUNING THE GRAPE.

(Paper read before St. Louis County Horticultural Society, August 30, 1902, by Henry Wallis, Wellington, Mo.)

Editor RURAL WORLD: In giving a short sketch of the very important subject of the horticulturist, I will touch only a few important points. At first, as to the planting of grapevines: Plant good one-year or two-year vines, even three-year plants, if you are willing to apply a little "stingfellow" method in sharp root and pruning. Do the planting in fall, during October and November, after the early frosts have made the vines perfectly dormant, and there will be little or no danger from winter-killing. Perhaps the "winter-killing" of the vines will do no more harm than it did to some Hick's vines in the hands of a Kansas experimenter and great (?) horticultural teacher, who reported to the Missouri Horticultural Society meeting (and such report entered upon the Year Book) that his Hick's vines were not hardy and "winter-killed" in the great freeze of February, 1890, and still these "winter-killed" vines made such an excellent growth during the summer of 1899 that in fall 1899 he could give a handful of cuttings therefrom to a friend in Southeast Missouri, of which county, however, he made no report. Of course, half hardy varieties require a little more protection. If you cannot plant the vines in fall, then do it early in spring, as soon as the ground is mellow and in proper condition. Do not be afraid to plant too deep; leave only two buds of the young wood above the ground and mark the plants with sticks, also trim the roots short to six or eight inches; long roots are not only useless, in fact I have found that vines with a few short six-inch roots made a better growth than those with a bunch of roots one foot to one and a half feet long. Why? Because grapevines (and all other fruit plants) will thrive and grow to perfection on those roots only which they make after transplanting.

What varieties to plant? Plant any you choose, if you think they do well in your soil and climate. Plant Champion, Ives and Janesville, if you like them, and

there's money in them for you; plant Moore's Early, Warden, Niagara, and fruit section. Mr. Craig has given much time and study to horticultural subjects and is quite familiar with all matters relating thereto. He is a man of exceptional executive ability and thoroughly equipped for performing the duties of president of an organization of this character.

President W. H. Beardshear, of the Iowa State Agricultural College, whose recent death removed one of the most widely known educators and lecturers upon agricultural subjects in the United States, was the original president of the company and one of its active promoters. The vice-president of the company is Dr. Geo. W. Miller of Des Moines, Ia., a widely known professional man, who has for many years been interested in the Osark fruit region. The secretary is Mr. Frank M. Carrell of Des Moines, until recently a member of the Board of Directors of the Iowa State Agricultural College, and formerly private secretary to Governor Boies of Iowa. He was also for five years chief clerk of the U. S. pension agency at Des Moines, more than \$2,000,000 per year being disbursed under his supervision and direction. The treasurer, Mr. A. J. Zwart, is cashier of the Des Moines National Bank, one of the leading financial institutions of the state.

The supervision of the horticultural part of The Frisco Orchard Company's business will be directed by Mr. M. J. Wragg, president of the Iowa State Horticultural Society and a member of the directory board of the State Agricultural Department and superintendent of its horticultural department. Mr. Wragg is one of the most widely known horticulturists in the United States and thoroughly experienced in the practical work of planning and carrying for orchards. He is thoroughly familiar with the Osark region.

Mr. Wragg will have for his advisory assistant Arthur T. Nelson of Lebanon, Mo., who is known throughout the Osark region as a practical orchardman and whose thorough acquaintance with this section will be of great value to the company.

The Frisco Railway System, whose interest in the enterprise has been one of the controlling influences in the location of this immense orchard on its line of road, is represented on the directory board by Mr. B. A. Hughes, the general immigration agent, and is widely known among the railroad men throughout the West.

Hon. C. A. Bishop, one of the judges of the supreme court of Iowa, and Dr. Wm. C. Carroll of Kansas City, Mo., with the officers above named, comprise the directory board of the company.

The 5,000 acres secured by The Frisco Orchard Company is all in one body and is situated three miles from Lebanon, the county seat of Laclede county. A contract has been made for the clearing and planting of the entire acreage, the purpose being to have the 5,000 acres planted to fruit within four years. The work of clearing the tract has already commenced and preparations are being made for the planting of orchard in the spring.

The land was selected after a very careful inspection of the entire Osark country by Mr. J. Wragg, horticultural superintendent of the company, and by a number of those interested in the organization. Mr. Wragg's inspection included a number of other tracts upon which options had been secured, but he pronounced this one the best for the purposes of the company, and contract for it was closed some weeks ago.

The organizers of The Frisco Orchard Company have gone carefully and thoroughly into an investigation of the possibilities for profit in commercial orcharding, and, based upon the most conservative estimates, they have arrived at the conclusion that no other legitimate enterprise offers so sure and so large dividends, if the orchard can be of sufficient magnitude to permit of the most efficient supervision. The expense attached to the growing of an orchard of this character, in which the very largest possible returns are produced, is so great that individual investments are not possible, but The Frisco Orchard Company's organizers, by uniting their resources and capital, and offering an opportunity for investment by others having surplus funds or salaries from a monthly saving can be made, will be able to develop an orchard which can be given the care and supervision of experts in fruit growing and which will result in the paying dividends and profits far in excess of those secured by individual investors owning small orchards where such culture cannot be given and where adequate transportation facilities cannot be provided.

The plan of the orchard company contemplates the planting of the lands largely to apples, but a considerable acreage of peaches and some small fruits will be planted, especially during the first two years, for the purpose of producing early dividends, which will also be provided for by the annual production of side crops of corn and other agricultural products, which will be grown between the trees before the period of bearing. In other words, The Frisco Orchard Company is arranging to develop the property on the most scientific plans known to modern horticulture, and at the same time to provide a profitable investment from the beginning. The underlying principle of the company is the belief that by co-operation, an orchard of commercial character can be developed, which, under the intelligent direction of competent men skilled in business and horticulture, will be a great profit-producer, paying much larger annual dividends than can possibly be expected from individual investments in the same line and without the chances for loss which are incident to investments in other fields, the regularity of the crops in the Osark region and the large production being an almost absolute guarantee of large and permanent yearly profits.

The management of The Frisco Railway System has taken an active interest in the plans of this company from the beginning, realizing the commercial importance of the proposition, not only as it relates to freight shipment over its line, but also as to the effect of the location of such an enterprise in its territory and an agreement has been made for the construction by the railway company of a spur from its main line midway between Lebanon and Simpson and running entirely across the orchard site, requiring three and one-quarter miles of track. The orchard company will construct warehouses at frequent intervals along the line of the spur, and will thus be provided with exceptional facilities for rapid and economical handling of its products.

The president of the company is Wm. Bayard Craig, Chancellor of Drake University—one of the leading educational institutions of Iowa—who is widely known throughout the west as an educator and business man and whose inter-

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My name on every one.

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MACBETH, Pittsburgh.

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Wind-fall apples in the Experiment Station orchard at Stillwater were gathered July 31 and made into cider. These apples made an average of two and one-half gallons of cider to the bushel. In 30 days the cider had finished fermentation and was ready for bottling. Ripe peaches were gathered on the same date and the juice pressed from them, and placed in jars for fermenting. In thirty days this was a vinegar of a better quality than could be found on the local market.—Oklahoma Bulletin.

WOOD'S SEEDS.
VA. GRAY OR TURF Winter Oats
Sown in September or October, make a much larger yielding and more profitable crop than when sown in the spring. They can also be grazed during the winter and early spring and yield just as largely of grain afterwards.

Wood's Fall Catalogue tells all about Vegetable and Farm Seeds for Fall Planting, Seed Wheat, Oats, Rye, Barley, Vetches, Grass and Clover Seeds, etc.

Write for Catalogue and prices of any Seeds desired.

T. W. WOOD & SONS.
Seedsmen, Richmond, Va.

Wood's Fall Catalogue also tells about Vegetable and Flower Seeds, Strawberry and Vegetable Plants, Lawn Grass, Hyacinths, Tulips, etc. Catalogue mailed free upon request.

The Apriary
FROM THE HONEY BEE.

Courts judicially know that bees cannot be stabled as other animals are; that to do so would destroy their value as property. If the owners of houses, grocers and fruit dealers and fruit raisers were not careless in leaving attractions for them, bees would commit no trespasses. They would go to pasture among flowers and amid fruit trees, and the grocers, fruit dealers and fruit raisers would not be required to screen against bees if domesticated and regarded as property; that the law should protect them from the ravages of trespassing bees the same as from any other trespassing animals.

This is true only in so far as identification can be made positive. The instinct of bees is well understood, but their identification is difficult.

The relation between fruit growers and bee keepers is said to be somewhat strained. The former claim it to be fair to compel the bee keeper to feed his bees at home in season when they would otherwise prove a nuisance and damaging trespassers to his neighboring fruit grower. Whether it would or would not be possible to keep bees at home by feeding them is an open question. But this plan would entail a heavy tax upon the bee keeper, who is just to the contrary, the bee keeper pay this when, quite likely, the cracked and rotting fruit which the bees would take from the neighbor's orchard has been produced, at least has not, because of the labor in pollination of these same bees? When bees find a fair crop of nectar in the flowers within reach of the hive, they prefer that to fruit, and few bees then attack fruit. But it is not at all sure that liberal feeding will keep all of the bees at home, or nearly all of them, from trying to get fruit sugar or juices.

The next suggestion is that of moving away if the cost would be less than feeding. But can the bee keeper get away from the fruit grower? If the extensive fruit grower can sue and collect damages for injuries to the fruit on his 1,000 trees, the owner of one tree, and 1,000 owners of trees within flying distance of an apiary, can also collect. If an abundant bee pasture happens to exist a few miles away, the solution is easy and moving is practical. But this is usually of short duration; civilization and improvements, farms and fruit gardens soon follow, and the cry is again, in the lower country, the bees are back on the fruit trees. On the other hand, it is claimed that the damages to fruit alleged to be due to bees is too remote and uncertain; and, as already stated, the benefits from pollination are equal to the damages. Few if any have reached the higher courts, and the question is still in the air.

Small son of an Indiana farmer left the team he was driving, near some beehives, while he chased a squirrel. The horse backed the wagon into the beehives and the animals were so badly stung that they died. The boy was also stung so badly that he lost the sight of one eye. It was held that the boy's contributing negligence occasioned the injury and resulting damages, and no recovery could be had.

An Iowa farmer maintained a hitching rack at the roadside in front of his residence. Near by, but within his inclosure, he kept a number of stands of bees. A neighbor voluntarily hitched his horses to the rack. A swarm of bees settled upon the animals, causing them to break the harness and run away. In the flight they collided with a team and vehicle going in an opposite direction, and both teams and vehicles were damaged. It was held that the hitching of the horses near the bees was a voluntary act, and the attack by the bees was too remote to justify a recovery from the bee keeper for the joint damages suffered by the owners of the wrecked outfits.

If damage be done by any domestic animal kept for use or convenience, the owner is not liable to an action, without notice (33 John, Rep. 339). The utility of bees as one will question, and hence there is nothing to call for the application of very stringent rules in their case. However, the question whether or not the keeping of bees near a highway subjects their owner to a responsibility which would not otherwise rest upon him has not, to our knowledge, been passed upon.—Gleanings in Bee Culture.

REARING QUEENS.
If one is not going to practice modern methods of queen rearing, and expects to rear his queens in the old-fashioned way, after the honey flow, he will rear inferior queens as a rule, remarks "Bee Gleanings." If this has been your practice I am not surprised that you find it advisable to require every season. I agree with you that purchased queens are subject to injury through the mails, and in our "A B C of Bee Culture" I advise everyone to rear his own queens as far as possible, notwithstanding we are extensive breeders of queens for the market; and as to the method, it takes really no more time to do the work right than to do it wrong.

Nature, under normal conditions, designs that queens should be reared either during the swarming season or during the time that the old queen is being superseded; and by your plan, I understand, you that purchased queens are subject to injury through the mails, and in our "A B C of Bee Culture" I advise everyone to rear his own queens as far as possible, notwithstanding we are extensive breeders of queens for the market; and as to the method, it takes really no more time to do the work right than to do it wrong.

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If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

MACBETH, Pittsburgh.

VINEGAR FROM WIND-FALL APPLES.
Apple trees in Oklahoma set very full of fruit this year and now the ground under the trees is almost covered with wind-fall apples. Most of the fruit will lie on the ground and fair and good good crop of apple worms for next year. These wind-fall apples will make good vinegar if gathered up and run through a cider mill and then the juice thus obtained allowed to ferment. The riper the apples the stronger the vinegar they will make. If the apples are very green a little sugar added to the cider before fermentation sets in will improve the quality of the vinegar very much. The cider should be placed in wooden or earthen vessels and set in the sun until fermentation has run its course. It then can be stored in the cellar or other convenient place for use.

Wind-fall apples in the Experiment Station orchard at Stillwater were gathered July 31 and made into cider. These apples made an average of two and one-half gallons of cider to the bushel. In 30 days the cider had finished fermentation and was ready for bottling. Ripe peaches were gathered on the same date and the juice pressed from them, and

Live Stock

DATE CLAIMS FOR LIVE STOCK SALES.

Claim dates for public sales will be published in this column free, when such sales are to be advertised in the RURAL WORLD. Otherwise they will be charged at regular rates.

POLAND CHINAS.

October 15-J. Lee White, Palmyra, Mo.
October 20-E. E. Axline, at Oak Grove, Mo.
October 25-Sensitaffar Bros., Brookfield, Mo., Poland Chinas.
October 30-Hart & Minnie, Poland Chinas, Edinburg, Ill.
October 31-Hedges & Walker, Poland Chinas, Pans, Ill.
November 1-Wm. Plummer, Barclay, Kan.
November 14-Harry E. Lunt, Burden, Kan.
November 15-A. B. Mull, Iola, Kas., Poland Chinas.
December 5-J. D. Jesse, Browning, Mo., Poland Chinas.

BERKSHIRE SWINE.

Oct. 22-1902-Combination Hog Show sale, Kansas City, Mo.
November 7-Manwaring Bros., Lawrence, Kan.
November 12-Kansas Breeders, Manhattan, Kan.
November 13-Combination sale Berkshire, at Manhattan, Kan.
Nov. 6, 1902-Combination sale, East St. Louis, Ill.; Manager, C. H. C. Anderson, Carlinville, Ill.
Dec. 1, 1902-Combination sale Berkshires, Manager A. J. Lovejoy, Roscoe, Ill.
Clerk, Charles F. Mills, Springfield, Ill.
Feb. 12-Biltmore Farm's annual sale of Berkshire brood sows, Biltmore, N. C.
October 25-Central Mo. Shorthorn Breeders' Assn. Combination Sale, at Moberly, Mo. E. H. Hurt, Sec., Clinton Hill, Mo.
Oct. 21-J. C. Hall, Hallsville, Mo., sale at Centerville, Mo.
Nov. 11-J. J. Littrell, E. S. Stewart, Dr. J. F. Keith and J. H. Cottingham, at Sturgeon, Mo.

HEREFORDS.

October 22-American Hereford Breeders' Association, Kansas City, Mo.
Week of American Royal.
November 15-19-Marshall County (Kas.) Hereford Breeders' Association, Hereford; E. B. Woodman, secretary.
December 4-American Hereford Breeders' Association, Chicago, Ill. Week of International Live Stock Exhibition.
December 5-J. E. Logan and Benton Gabbert & Sons, Hereford, Kansas City, Mo.
December 10-T. H. Pugh, Hereford, Kansas City, Mo.
January 25-1903-T. F. B. Sotherham, Hereford, Kansas City, Mo.
January 28-Combination sale of Herefords at Chicago.
January 19-1903-C. W. Armour and Jas. A. Funkhouser, Hereford, Kansas.
January 28-29-C. A. Jamison and others, Peoria, Ill., at Chicago.
February 10, 11, 12, 1903-C. A. Stannard and others, Hereford, at Oklahoma City, O. T.
February 24-25, 1903-C. A. Stannard and others, Hereford, Kansas City, Mo.
May 6-7, 1903-Colin Cameron, Hereford, Kansas City, Mo.

ANGUS, GALLOWAYS, SHORTHORNS AND HEREFORDS.

April 7-1903-W. C. McGavock, Mgr., Aberdeen Angus, Kansas City, Mo.
SHORTHORNS AND CLYDEDALES.
November 6-Thos. Andrews, Cambridge, Neb.
Oct. 2-Tom Campbell & Son, Higginsville, Mo. Horse sale at Farm.
SHORTHORNS, HEREFORDS AND ABERDEEN ANGUS.
October 21-J. C. Hall, Hallsville, Mo., and J. S. Brown, Bates City, Mo.
October 30-F. T. Bates, Bates City, Mo. Sale at Odessa, Mo. Short-horns.
November 4-Chenault Todd, Fayette, Mo.

November 5-W. W. Pollock, Mexico, Mo. Short-horn Cattle, Poland-China Hogs, Saddle and Harness Horses.
Nov. 7-E. T. Letton & Son, Walker, Mo. Closing out Trotting Horse Sale.

November 6-S. P. Emmons, Mexico, Mo. Short-horn.

November 10-Branstetter, Robinson and Wright, Short-horn, at Vandalla, Mo.

November 11-J. J. Littrell, E. S. Stewart, Dr. J. F. Keith and J. H. Cottingham, at Sturgeon, Mo.

November 12-T. W. Ragdale, T. A. Bailey and Wm. R. Turner, at Shell-bina, Mo.

November 13-Purdy Bros., Short-horn, at Harris, Mo.

December 10-F. M. Gifford, Short-horn, Milford, Kan.

November 18-Cooper County Short-horn Breeders' Association, Short-horn, Buncheon, Mo.

November 20-North Missouri Combination Sale Association, Trenton, Mo.

November 23-Short-horn, W. P. Harned and F. M. Marshall, Kansas City.

December 5-Combination sale, J. D. Jesse, Mgr., Browning, Mo.

December 16-Gifford Bros., Milford, Kan., at Manhattan, Kan.

February 10-11-Col. G. M. Casey, Clinton, Mo., and T. J. Wornall & Son, Liberty, Mo., at Kansas City.

February 17-D. K. Kellerman & Son, Mound City, Kan., at Kansas City.

February 18-19-I. M. Forbes & Son, at Chicago, Ill.

H. J. Hughes, Secretary.

STOCK NOTES.

Mr. J. Lee White, of Palmyra, Mo., advertises his public sale of Poland Chinas with us. He will sell about sixty head, consisting of last fall gilts and boars; a few matured sows, bred, and spring pigs of both sexes. The Poland Chinas are sired by "White's Chief I Know," he by Chief I Know; dam by Ideal Black, U. S. The largest of the spring pigs are also sired by White's Chief I Know, the rest by Protector, a worthy son of the great Protector, and all the sows that are bred will be bred to Protector. The dams of this offering are of the Tecumseh and Black U. S. families, and are a well-bred lot, as well as of good quality. It is a very uniform offering from start to finish. There are about twenty-eight spring gilts that are a credit to any breeder, and this sale will be a splendid place to start a herd. Send to Mr. White for catalogue or any information wanted, and don't forget to attend the sale if you want Poland Chinas of either sex.

J. E. Haynes, Ames, Ill., one of our old and valued advertisers, writes: "I am satisfied that the RURAL WORLD is a leader to sell hogs for the breeder who has the nerve to use advertising as a medium. I have for sale a Chester White Boar, registered, Handy Joe 1167. This hog is a No. 1 animal, just two years old; weight about 500 pounds; very active and is tip-top in service (sure breeder); guaranteed as represented or no sale; price \$25; also spring pigs up in O. of both sexes."

KANSAS CITY SHOW.-The premium list for the Berkshire Show at Kansas City October 25-26, 1902, may be had upon application to Charles F. Mills, Springfield, Ill., Secretary of the American Berkshire Association. The list is very complete and embraces much valuable information that should be in the hands of every Berkshire breeder who expects to exhibit or sell any hogs at the Kansas City Show. The cash prizes are very liberal and the premiums offered for the best exhibits made from the several states warrant large and creditable displays from all the leading Berkshire breeding districts.

J. P. Vissering, of Melville, Ill., writes claiming that he has the best lot of Poland China hogs that he ever raised, and he has been a long time in the business; that the demand for strong, growthy, heavy-boned hogs is great. He issues an attractive circular which is free for the asking. He expects to be sold out early, and those wanting hogs had better write soon. The longer the buyer waits, the heavier the hogs will be, and the more expensive there will be to pay on them. Mr. Vissering is recognized as one of the foremost breeders of Poland China hogs and Aberdeen Angus cattle. He is a keen judge of individual merit and is thorough practical. Besides hogs, he can offer inducements to those wanting gilts, and it will certainly pay any of our readers desiring to start in Poland China to write him for his circular. Mr. Vissering also offers a choice lot of young Angus cattle. Mention the RURAL WORLD when you write.

RANGE-BRED FEEDERS AT AUCTION.-Uniformity helps to sell stock. The shrewdest salesmen appreciate this fact. It prevails in all branches of the trade. The man who sorts up his calves, his yearlings and his two-year-old heifers in his pastures or lots when submitting them to the inspection of the average buyer will stand a much better chance of making a sale, other things being equal, than the man who runs out before his visitor all ages in a bunch. This is true even of the market cattle. It may seem somewhat strange that buyers of beef cattle will pay something for appearance, but they will all confess that they do. Given two lots of finished bullocks, equals in all respects, the one of broken colors, the others uniform in color, and the uniform lot will sell first and usually at a little premium. In selecting feeders this fact should always be borne in mind. It is very difficult to get uniformity of color, saying nothing of quality, in the usual run of farm-bred stockers or feeders, but when we resort to range herds we get these conditions in satisfactory fashion. This one fact should be sufficient to induce a large attendance on the auction sales to be held by Mr. Sotherham at Weavergate farm next month, at which he will offer 2,000 head of Hereford, Short-horn and Angus feeding cattle bred on the range and transported in through trains direct to Weavergate, where they will "vegetate" in prime pastures for some time before the sale, and get fairly well started on a tame grass diet. Mr. Sotherham has personally selected these cattle and on his return from Texas he advised us that he had been even more successful than he had expected in getting stock of prime quality. It will be safe to depend on the class of cattle Mr. Sotherham selects. He has the record to show for that.

The Hereford people have succeeded in securing an unusual representative list of contributors to their sale in connection with the American Royal. They are as follows:

J. C. Adams, Moweaqua, Ill.
Miss Lou Goodwin, Blue Rapids, Kas.
Jas. A. Funkhouser, Plattburg, Mo.
C. A. Stannard, Emporia, Kas.
Gudgell & Simpson, Independence, Mo.
Scott & March, Belton, Mo.
Steward & Hutcheon, Greenwood, Mo.
Mrs. C. S. Cross, Emporia, Kas.
C. G. Comstock & Son, Albany, Mo.
Charles W. Armour, Kansas City, Mo.
Stanton Breeding Farm Co., Madison, Neb.

Benton Gabbert & Son, Dearborn, Mo.
J. M. Curtice, Kansas City, Mo.
L. B. Chappell, Blackburn, Mo.
Jas. A. Gibson, Odessa, Mo.
T. C. Sawyer, Lexington, Mo.
Alice F. Cameron, Lechelle, Mo.
A. C. Moore, Lees Summit, Mo.
W. B. Waddell, Lexington, Mo.
Geo. H. Adams, Linwood, Kas.
J. K. Rosier, Butler, Mo.
L. P. Larson, Powhattan, Kas.
J. A. Larson, Eberest, Kas.
Jones Bros., Comiskey, Kas.
H. D. Addison, Napoleon, Mo.
Wm. S. Powell, Moline, Kas.
W. H. Curtice, Eminence, Ky.
Giltner Bros., Eminence, Ky.
N. E. Mosher & Son, Salisbury, Mo.
A. E. Metsker, Bond, Kas.
O. Harris, Harris, Mo.
S. L. Standish, Hume, Mo.
E. E. Moore, Worth, Mo.
N. Kirtley, Savannah, Mo.

One hundred head are to be sold, about thirty-five of which are bulls, and the farmer, breeder or ranchman who has been waiting for this sale to secure something for use in his herd will be more than pleased with the offering. The female contingent includes the very best that the above breeders have in their herds. Catalogues may be had by addressing C. R. Thomas, Secretary, Exchange avenue, Union Stock Yards, Chicago, Ill.

HIGHEST PRICED SOWS.-The two best sows in the Lovejoy's sale were purchased by G. C. Council of Williams, Ill., viz: Stumpy Lady \$340, at \$210, and Cherry Blossom LXX, \$303, at \$210.

Mr. Council also bought for \$200 the boar Royal Combination \$340.

Messrs. Lovejoy & Son, in their sale catalogue, describe the boar and two sows named above as follows:

"Stumpy Lady \$340 is another of the great young show herd, and traces to that standard old family of Stumpys. She has long ear, body of good depth and full, strong back, a well sprung rib, a good full ham and stands on tip toes as does

every one of the show herd. She has an ideal head and ear, and in markings has about one-third of the right ear white. She is one of the kind that we all like to breed, but they are scarce in many herds. Her picture is not overdrawn in the least, and would be recognized at once by any one. She, with the other two young sows in the herd, will weigh fully as much and more than the boar, and are going on well every day."

"Cherry Blossom LXX, \$303 is without doubt the acme in Berkshire breeding. She is a show sow from the tip of her beautiful nose to the end of her white brush. It is not necessary to describe her, for it can not be done justice. She would have been put into the herd of young sows and boar, but nothing else could match her, and it was thought best to sell her separately. She, as seen by her pedigree, is one of the family on which we have banked for many years. There is but one feature in her whole make-up that can be faulted, and we very much doubt if one in a hundred can find that. If a man is seeking the showiest sow he ever saw, he will find her. He is also a half brother to the great and unbeaten show boar that we sold to Mr. G. G. Council last year, being from the same sow, but sired by Combination instead of Baron Lee VIII. This boar is worthy a place in any herd in the world."

Tuesday and Wednesday forenoons, October 21 and 22, have been designated as the dates for holding the sale under the auspices of the American Aberdeen Angus Cattle Breeders' Association, during the American Royal Cattle Show, at Kansas City, October 26 to 28. One hundred head of the famous "market toppers" will be sold on this occasion. They are the property of nineteen members of the association and are representative specimens of the breed. The largest commitment is made by the estate of W. O. Park, Atchison, Kas., which consists of sixteen head of the "top" of the Osborne farm herd. It includes Apriort of Burlington, a daughter of the illustrious Black Knight, a cow of national reputation and the dam of Apriort of Emerson, VI, that sold for \$1,000 in the Escher display sale and was considered by good judges the best female in that famous sale. She also has the distinction of being out of the dam of the champion and champion sire Moon Eclipse. She is a beautiful, symmetrical cow and could be an exceedingly attractive animal and a fine feeder. She is well along in calf to Make Peace by Lord Woodlawn, whose sons are just now becoming more prominent than those of any other Angus bull. The Queen Mother cow Queen Laura is also a very superior animal of great scale and substance and well finished over every point. She is by the Victoria bull Kellor of Braunhurst and has demonstrated her excellence as a producer and is well along in calf to the prize-winning Barbara bull Bambo, a full brother to Mr. McHenry's undefeated champion Barbara McHenry VIII. Queen Louisa of Osborne by Imp. Electra, the McHenry bred Queen of Denison 20th, by Baltimore of Glendale; Queen Camille of Osborne by Axtell of Estill, that sold for \$1,000 in the last International Exposition sale, and Queen Loreta of Osborne, sired by Axtell of Estill and out of the cow Queen Laura described above and the highly bred Queen Mother females, who the bulls Roland of Osborne by Marshall of Estill, a son of Imp. Entwistle and Heather Lad of Osborne by Axtell of Estill are bulls also of this famous Queen Mother tribe that he produced so many record breakers and champions. For example, Rose of the four-year-old cow Rose II of LaCrew excels. She is exceedingly short legged, thick fleshed, wide and deep and comes of the same family and is exactly the same type as the late late Queen Rosemary. Mr. Gardner's celebrated champion bull, the Queen Mother of Osborne, who sold for \$1,000 in the last International Exposition sale, Rose's Folly of Osborne, sired by Black Knight of Estill IX, the highest priced Angus calf ever sold will also be included. Osborne Farm will send forward one of the few Estill-bred animals that will be included in the sale in the form of a well finished yearling, a two-year-old sired by Imp. Prince of Kerrera and whose dam is a granddaughter of Imp. Elsie by the famous Justice. There are many other attractive consignments in this offering, including five imported animals from the herd of M. A. Judy, West Lebanon, Ind.; eight handsome daughters of Royal Eric (sire of the \$2,000 cow Blackbird of Woodland IV) from the herd of R. P. McClement, Olathe, Kas. The get of the imported bulls, Pacific, Elberfeld and Elberg, will be presented by Anderson & Findlay, Allendale, Kas., and other high-class consignments to the great sale will be mentioned in later issues. The twenty-five imported bulls, several high class herd leaders, and many animals that will sire the famous "market topping" steers. The females of breeding are in calf to good, well-bred bulls, are herd leaders and are guaranteed such. For further information and catalogue address W. C. McGavock, Mgr., Mt. Pulaski, Ill.

SHORTHORN SALE AT THE AMERICAN ROYAL.

Editor RURAL WORLD: Stockmen who have attended previous sales and shows held under the management of the American Royal Association have no doubt been impressed with the fact that with few exceptions, superior cattle have been offered for sale. The association owes a duty to the public, as well as to Short-horn breeders and this duty it endeavors to perform by presenting to the public a choice offering of Short-horn bulls and cows that will be both a credit to the breed and also prove satisfactory and profitable to their purchasers.

The offering that will be made at Kansas City October 23 and 24, during the American Royal show, will consist of a choice lot of the younger class, to begin the breeding of animals too young. Many seem to think that as soon as an animal is somewhere near a normal size in growth of outward form they are ready to be mated. This is a mistake, and one that should be corrected at once, for there is nothing that may so affect both the parent and the offspring as that of mating among immature animals. Its tendency is to stunt the further development of the mother and give to the progeny a certain weakness of constitution and vigor, with a lack of overly strong characteristics.

BREEDING TOO YOUNG.

We have noticed that there is a general tendency among farmers, especially those of the younger class, to begin the breeding of animals too young. Many seem to think that as soon as an animal is somewhere near a normal size in growth of outward form they are ready to be mated. This is a mistake, and one that should be corrected at once, for there is nothing that may so affect both the parent and the offspring as that of mating among immature animals. Its tendency is to stunt the further development of the mother and give to the progeny a certain weakness of constitution and vigor, with a lack of overly strong characteristics.

THE ARMOUR CATTLE PRIZES.

The Armour cups, exhibited in the Jacquard Jewelry Company's Kansas City store, are to be awarded at the American Royal to be held in Kansas City October 26 to 28. There are three of the cups. The Armour Southern Trophy to go to the best bull in the Short-horn breed; the Armour Hereford Trophy, to be awarded to the best Hereford bull, and the Armour Galloway Trophy to the best Galloway bull.

These cups are of sterling silver, designed by the Jacquard Jewelry Co., finished in gray, with heavy applied border. The Plant of the Armour Packing Co. is etched in bright silver on a background of gray. The Armour Helmet trade mark is worked out very attractively on each handle. The cups are valued at \$50 each. It has been the custom of the Armour Packing Co. to give cups in this way at the last fancy stock shows, but prior to this season only the Short-horn and Hereford breeders have participated. It was the intention of the Armour Packing Co. to give a cup to be awarded to the best of the three different breeds of cattle represented, but unfortunately the Philad August people did not decide to enter the October American Royal until it was too late to have a cup made for them. The work was of such a difficult nature that, although ordered many months ago, the cups have just been completed by the Jacquard Jewelry Co. This explanation is due the Armour Packing Co. because of what might appear to some to be a discrimination against the Polled Angus Cattle Breeders' Association.

In former seasons the Armour cups have been an important feature of the fancy stock shows. In 1899 F. A. Nave, Atchison, Ind., captured the Armour Hereford cup with his bull Dale 6648. The cups offered the Hereford breeders in 1900 and 1901 were won respectively by Perfect 9283, owned by Thomas Clark, Beecher, Ill., and Dandy Rex 7189 of the Gudgell & Simpson herd, Independence, Mo. In 1899 the show was purely a Hereford exhibit and the first Short-horn cup was therefore not given until the fall of 1900. It was carried away by Lavender Viscount 13725, owned by Lavender out of Gayety. In 1901 Lavender Viscount was barred because of winning the 1900 cup. The Armour Trophy was taken by Golden Victor 13872, by Salamis out of Golden Victoria, owned by Geo. Harding & Son.

There has always been a keen rivalry between the contestants for the Armour cups. The explanation of this is easy. The winning bull is at once given national note as the best animal of his breed in America. The effect is far reaching. He is acknowledged the head of the entire herd of the country and will readily sell for a small fortune to the owner. The fact of winning the Armour cup also adds to the note and value of his offspring. The winner of the Armour Trophy of 1900, Perfect 9283, was recently sold to Mr. G. H. Hoxie, of Chicago, Ill., for \$9,000. The winner of the 1900 Hereford cup, Dale 6648, was sold, after winning the cup, for \$10,000.

It may be noted here with a great deal of satisfaction to the breeding public that Mr. Charles W. Armour, the present head of the Armour Packing Co., is taking a lively interest in the betterment of cattle and is following out the same well known policy adopted years ago by Mr. Kirk B. Armour, whose death last year was deeply felt and mourned by every breeder in the country. While Mr. Kirk B. Armour was a breeder of the Hereford cattle, yet he never showed partiality and never overlooked opportunity to improve the supply to all of the fancy breeds. Of course, it must be generally understood that the two brothers, Charles W. and Kirk B., worked in perfect harmony, and while Mr. Kirk B. was the active head of the Armour Packing Co. prior to his death, he followed out the same policy and consulted his brother. It is therefore but natural that under the management of Mr. Charles W. Armour the Armour people are again out offering prizes in the way of Armour Trophies to the contestants for the best animals. Mr. Charles W. Armour is now the head of the breeding business himself and no doubt his breeding farm, the Meadow Park, a few miles south of Kansas City, will be visited by hundreds of breeders attending the American Royal in October.

The fact that the American Royal is to be held here is a compliment and an acknowledgment of the great importance of Kansas City as a live stock center. The show is not only national, but worldwide in importance and it will bring to Kansas City breeders from every state in the Union, and no doubt a great many from foreign countries.

The famous Texas steer, about which so much has been written in history, and which until quite recent times has figured in the development of the great Southwest, is fast becoming extinct. The Texas steer and his companion, the cowboy, are being rapidly disappearing from the scene, not only in fiction and history. The "long-horn" are vanishing before the onward movement of the blooded stock of the North and East. Genorino, a famous long-horn animal from Texas, when thirty-six years old had a pair of horns measuring 9 1/2 feet from tip to tip.

FECONDITY OF AYRSHIRE.-An interesting case of fecundity is reported in the agricultural journal of Victoria, Australia. A thoroughbred Ayrshire cow owned by J. W. Anderson of Tower Hill Park was bred to a twin-male and female. The bull when old enough was placed on one of Mr. Anderson's dairy farms and the first season (1900) 12 of the cows gave birth to twins. The future of this bull and his progeny will be watched with interest. Ordinarily twins are not considered valuable as breeders.

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We have noticed that there is a general tendency among farmers, especially those of the younger class, to begin the breeding of animals too young. Many seem to think that as soon as an animal is somewhere near a normal size in growth of outward form they are ready to be mated. This is a mistake, and one that should be corrected at once, for there is nothing that may so affect both the parent and the offspring as that of mating among immature animals. Its tendency is to stunt the further development of the mother and give to the progeny a certain weakness of constitution and vigor, with a lack of overly strong characteristics.

THE ARMOUR CATTLE PRIZES.

The Armour cups, exhibited in the Jacquard Jewelry Company's Kansas City store, are to be awarded at the American Royal to be held in Kansas City October 26 to 28. There are three of the cups. The Armour Southern Trophy to go to the best bull in the Short-horn breed; the Armour Hereford Trophy, to be awarded to the best Hereford bull, and the Armour Galloway Trophy to the best Galloway bull.

These cups are of sterling silver, designed by the Jacquard Jewelry Co., finished in gray, with heavy applied border. The Plant of the Armour Packing Co. is etched in bright silver on a background of gray. The Armour Helmet trade mark is worked out very attractively on each handle. The cups are valued at \$50 each. It has been the custom of the Armour Packing Co. to give cups in this way at the last fancy stock shows, but prior to this season only the Short-horn and Hereford breeders have participated. It was the intention of the Armour Packing Co. to give a cup to be awarded to the best of the three different breeds of cattle represented, but unfortunately the Philad August people did not decide to enter the October American Royal until it was too late to have a cup made for them. The work was of such a difficult nature that, although ordered many months ago, the cups have just been completed by the Jacquard Jewelry Co. This explanation is due the Armour Packing Co. because of what might appear to some to be a discrimination against the Polled Angus Cattle Breeders' Association.

In former seasons the Armour cups have been an important feature of the fancy stock shows. In 1899 F. A. Nave, Atchison, Ind., captured the Armour Hereford cup with his bull Dale 6648. The cups offered the Hereford breeders in 1900 and 1901 were won respectively by Perfect 9283, owned by Thomas Clark, Beecher, Ill., and Dandy Rex 7189 of the Gudgell & Simpson herd, Independence, Mo. In 1899 the show was purely a Hereford exhibit and the first Short-horn cup was therefore not given until the fall of 1900. It was carried away by Lavender Viscount 13725, owned by Lavender out of Gayety. In 1901 Lavender Viscount was barred because of winning the 1900 cup. The Armour Trophy was taken by Golden Victor 13872, by Salamis out of Golden Victoria, owned by Geo. Harding & Son.

There has always been a keen rivalry between the contestants for the Armour cups. The explanation of this is easy. The winning bull is at once given national note as the best animal of his breed in America. The effect is far reaching. He is acknowledged the head of the entire herd of the country and will readily sell for a small fortune to the owner. The fact of winning the Armour cup also adds to the note and value of his offspring. The winner of the Armour Trophy of 1900, Perfect 9283, was recently sold to Mr. G. H. Hoxie, of Chicago, Ill., for \$9,000. The winner of the 1900 Hereford cup, Dale 6648, was sold, after winning the cup, for \$10,000.

It may be noted here with a great deal of satisfaction to the breeding public that Mr. Charles W. Armour, the present head of the Armour Packing Co., is taking a lively interest in the betterment of cattle and is following out the same well known policy adopted years ago by Mr. Kirk B. Armour, whose death last year was deeply felt and mourned by every breeder in the country. While Mr. Kirk B. Armour was a breeder of the Hereford cattle, yet he never showed partiality and never overlooked opportunity to improve the supply to all of the fancy breeds. Of course, it must be generally understood that the two brothers, Charles W. and Kirk B., worked in perfect harmony, and while Mr. Kirk B. was the active head of the Armour Packing Co. prior to his death, he followed out the same policy and consulted his brother. It is therefore but natural that under the management of Mr. Charles W. Armour the Armour people are again out offering prizes in the way of Armour Trophies to the contestants for the best animals. Mr. Charles W. Armour is now the head of the breeding business himself and no doubt his breeding farm, the Meadow Park, a few miles south of Kansas City, will be visited by hundreds of breeders attending the American Royal in October.

The fact that the American Royal is to be held here is a compliment and an acknowledgment of the great importance of Kansas City as a live stock center. The show is not only national, but worldwide in importance and it will bring to Kansas City breeders from every state in the Union, and no doubt a great many from foreign countries.

The famous Texas steer, about which so much has been written in history, and which until quite recent times has figured in the development of the great Southwest, is fast becoming extinct. The Texas steer and his companion, the cowboy, are being rapidly disappearing from the scene, not only in fiction and history. The "long-horn" are vanishing before the onward movement of the blooded stock of the North and East. Genorino, a famous long-horn animal from Texas, when thirty-six years old had a pair of horns measuring 9 1/2 feet from tip to tip.

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**Warranted
to give satisfaction.**

sources. Although he won the 2:20 tri-
tling, he did it in a most dramatic fa-
tion. Julia Mason and Roan Wilkes w
The Questor's competitors in the ra
They finished noses apart, leaving
spectators in doubt as to the winners
the heats. In each heat Pat McGre
started as though he had the money
him. He led the race for most of the
quarter. When Julia Mason and Roan W
came out, Roan Wilkes set the pace f
the half and looked like a winner
each heat. They raced down the stre
like a team, with The Questor look
like a loser each time. In the last

Herchel is, all things considered, the greatest sire in the state. He came to Missouri as a yearling; is a son of Belmont, a handsome family of trotters out of Hermosa, a daughter of Edwin Forrest, the author of the beauty and style in the famous King of the Sires out of Edwin Forrest's mare.

Missouri is taking a better place each year and her younger sires will be among the foremost in the land. E. Knell has made a success of his first fall, under adverse circumstances of weather, and previous failures and bad management. It assures a certainty for the fairs of fu-

And it is gratifying that we only occasionally hear this chatter. A decade or so when the bicycle fad was in full glow, we heard much more of it. This is a case where ignorance is not even bliss as where it is not folly to be wise.

In this rushing age, few of us ever allow long enough to think that the horse is potent part of all civilization and all religions. He enriches the literature of both the Bible and the Koran. He has added largely to the vocabulary of the language of civilization. For-

Soft Happiness

among the party, all being successful in making fine catches. We remained at Mills until Friday morning, spending most enjoyable time, and then, putting our belongings into a large ship,

course of arsenic (five grains arsenic with one dram of bicarbonate of soda daily). When the legs swell, exercise on dry roads, hand rubbing and evenly applied bandages are good; and mild astringents, like extracts of witch hazel, may be applied, and the part subsequently rubbed dry and bandaged. If there is much heat, but unbroken skin, a lotion of two drams sugar of lead to one quart of water may be used on this bandage, covered in cold weather with a dry one. The same lotion may be used after the cracks appear; or a solution of sulphurous acid on part. glycerine one part and water one part, applied on cotton and well covered by a bandage. In case these should prove unsuitable to the particular case, the part may be smeared with vaseline one ounce, sugar of lead one dram and carbolic acid ten drops.

Home Circle

Written for the RURAL WORLD.
AT THE OLD HOMESTEAD.

The wheels of time have backward turned
And sped o'er memory's track
And brought the long departed years of
happy childhood back.
The years of childhood, youth and man-
hood all have been reviewed.
And many a long forgotten scene fond
memory has recovered.
The old homestead upon the farm where
I was born and reared,
Though changed by time's effacing touch
from what it then appeared.
Comes back in every bush and tree, in
every field and field,
And even nature's fleeting moods again
have been revealed—
The fields of waving grain and grain, be-
neath a deep blue sky.
The fleecy clouds, the gentle breeze, the
song-bird's cheerful cry.
Are all as fresh in memory as yester-
day's latest scene—
No brighter pictures do we see than those
on memory's screen.
In living o'er the past again, I've played
in old-time nooks.
I've climbed the trees and roamed the
fields and meadows down the brooks.
I've gathered daisies in the meadows,
driven home the cows,
And plucked the ripest cherries from the
very highest boughs.
I've fished again in "Martin creek" and
caught a string of "cats"
And slept on cold beds long before
the time of state.
I've eaten apples in the orchard (best
that ever grew).
And gone to school with pockets full of
carried dinner, too.
And in the frosty winter time I've slid
upon the ice.
And almost cracked my cranium more
times than once or twice.
I've caught the rabbit in a "snare," the
partridge in a trap,
And kept my ears from freezing off by
pulling down my cap.
Again I've been a farmer boy and plowed
and sown my wheat
And worked the old familiar team
through days of summer heat;
I've planted corn and gathered it, and
fattened pigs and geese;
I've cut the grain in harvest time and
bound it into sheaves.
And shocked it, stacked it, threshed it,
taken it to mill—
And what an appetite I had in well re-
membered still.

All these, in fancy, I have done, and
many things beside
While setting 'neath the old elm tree
where branches spread wide,
Have swayed above the old farmhouse
for more than forty years.
Where once the apple orchard stood no
sign of it appears;
The barn I knew is there no more, and
change is everywhere.
But the old, old locust trees stand yet,
and mother still is there.

WALTER S. WHITACRE.
Mt. Vernon, Ill.

THE BUTTERFLY AND THE ANT: A
STORY OF A DUDE AND A FARMER.

This is a true story of a portion of the
life and doings of a young man who must
be forty years old by this time, and who,
at the period I made his acquaintance,
was, to all outward appearances, what is
now known as of the species "dude,"
genus "home." We didn't call him a
dude, as that would not have been correct.
That he was a gay boy and a dandy there
was no doubt, although he really lacked
the prime essential of our present day
acceptance of the appellation "dude"; he
was not vain; but he was rapid all
right.
He was rather tall and immensely good
looking, and lived to wear good clothes
and enjoy life in the utmost abandon to
butterfly existence. He wasn't a good
boy in the anxious mother sense of the
word, and I fear he was a trifle wild in
many of his ways. The girls all adored
him, and he recognized that. The boys rather
envied his evidently unlimited spending
money. The mothers sighed and said,
"What a splendid fellow Dick Steele would
make if—!" but there were so many
ifs that it seemed a hopeless case.
The fathers shook their heads and ut-
tered dark prophecies.
As this is a true story, I can only tell
of that part of Dick Steele's career when
I knew him personally. The value of this
narrative lies in the fact that it is a
sketch from real life, and as such should
have some interest to the student of hu-
man nature.

Where he came from I do not know. His
mother—a widow with means, the relic
of a hard-working and prosperous farm-
er, came to Athens, a quiet college town,
where I had always lived, and brought
her two sons, with the avowed intention
of settling down for life. Her immediate
purpose was the education of the boys in
the really excellent schools of the place.
The elder son, at that time about twenty-
two, was a "corker." He drank and gam-
bled and traveled the primrose path of
dissipation with a pace that was mete-
oric, and like that brilliant visitor from
outer space, he disappeared suddenly and
I have never heard from him since. His
poor, old mother added a few more lines
of care to her worn and patient face and
never spoke of him to friend or neighbor.
Dickey, the younger, was just as wild
apparently, but not so bad, a distinction
without a difference, perhaps, but there
was something so happy-go-lucky and
sunshiny in his make-up that induced
forgiveness for his many escapades. He
went to school, it is true, but not for
study. His clothes were something gorge-
ous. Always just over the border land
of good taste they were elegance and

DEAFNESS CANNOT BE CURED.

By local applications, as they cannot
reach the diseased portion of the ear.
There is only one way to cure Deafness,
and that is by constitutional remedies.
Deafness is caused by an inflamed condi-
tion of the mucous lining of the Eusta-
chian Tube. When this tube gets inflamed
you have a rumbling sound or imperfect
hearing, and when it is entirely closed
Deafness is the result, and unless the in-
flammation can be taken out of the tube
restored to its normal condition,
hearing will be destroyed forever; nine
cases out of ten are caused by catarrh,
which is nothing but an inflamed condi-
tion of the mucous surfaces.

We will give One Hundred Dollars for
any case of Deafness (caused by catarrh)
that cannot be cured by Hall's Catarrh
Cure. Send for circulars, free.
F. J. CHENEY & CO., Toledo, O.
Sold by Druggists, 75c.
Hall's Family Pills are the best.

smartness personified. He was a walking
fashion plate, and that he was conspicu-
ous in the subdued little fresh water col-
lege town, can be easily imagined.
He grew up to be a man in size, men-
tally a child and a cipher, if not a minus
as to character. I knew him well for a
period of six years, and one day his
mother told him that there was no more
money. Whether it had been squandered
by his extravagance or dissipated through
mismanagement or ill-advised invest-
ments, I never quite knew—perhaps both.
The main fact for these two—the last of
the family—was that their wealth had
been taken away. They had never been pro-
ducers, at least the boy had always been
a parasite and the mild-mannered old
lady had been at best, the silent partner
of his aggressive, pushing, money-mak-
ing husband.

What could they do? There seemed
nothing in future but poverty and hard-
ship. Dick had never worked in his life
and the mother was too inexperienced to
become a successful bread-winner in her
faded, feeble years.
They had a consultation one morning
and the mother was almost in despair.
The only reproof I ever knew her to ad-
minister fell from her lips as she cried in
a burst of emotion, "Oh, Dickey, if you
had just tried to do something instead of
idling your time away, spending your al-
lowance in the clothes and things." And
then Dickey woke up. I honestly believe
that the tiny spark of manhood which
had been smoldering in his bosom all
through his giddy, useless life, glowed
then for the first time. His mother's dis-
missal—he really loved her in a selfish in-
fantile way—his first serious thought in
life and the fear of the calamity which
had fallen so suddenly upon them, fanned
the spark into a glowing ember and it
burned a moment or two when suddenly
Dick exclaimed, "Mother, about the farm."
Mother, over at Columbia Crossing;
haven't we got that yet? "Yes, that is
the only property we have in the world;
and the rent, after taxes and repairs,
from that eighty-acre farm wouldn't pay
your neckties." Then Dickey the Dude
ceased to be an idler and the man spoke:
"Mother, let's go back to that farm and
live on it. I'm going to try and do some-
thing." And to the surprise of his moth-
er, the townspeople and perhaps himself,
Dick Steele went away from Athens to
begin life on the little farm, and the
young man worked in the fields, milked
the cows, patched up the fence and
barn and he was a butterfly no longer.
He was laying up stores for the future.
I believe he made the old farm pay, al-
though I know nothing about their present
circumstances. That was twenty
years ago. Only once have I seen my old
friend Dick—and I am glad to call him
so now—since that memorable day when
adversity made a man of him. He had
been working the farm about three years
and he came back to Athens to attend
some festival occasion, it may have been
the June commencement, but it was more
likely the county fair. He dressed
in the mode, but his clothes were not
quite so stunning as of old and he didn't
have the same old sassy look he used to
wear, but a dignity of responsibility and
new-born manhood rested upon his
features and his face was fine to look upon.
His hands were brown and hard, and I
stood there in the October sunshine, shak-
ing hands with him and wondering, won-
dering how a butterfly could become
metamorphosed into an ant. I don't quite
understand it yet—perhaps he was only a
butterfly in appearance. A little while
afterwards, however, I saw that his whole
sovereignty is a good thing for a fel-
low—it helps to make him a real man.

BOAP BUBBLES.

Now when autumn begins to close up
her outdoor play grounds, some amuse-
ment for the little folks indoors should be
looked for. An active, healthy child is
"mischievous" when "naughty" when it
only needs employment. Elizabeth Field,
in a recent number of the RURAL
WORLD, wrote an interesting story of a
little girl who entertained herself by cut-
ting out magazine pictures and coloring
them to suit her artistic fancy and p'tend-
ing they were all sorts and conditions
of folk.
Another innocent and engaging pastime
is blowing soap bubbles, and with a little
practice, some ingenuity and the follow-
ing formula, quite wonderful results may
be obtained. An ideal solution is made
by diluting a bottle half full of castile
water, with one-fourth of an ounce of
castile soap powder. Allow the powder
to thoroughly dissolve, then add one-third
of a pint of pure glycerine. In making
the solution be sure and keep the bottle
in a temperature of seventy degrees or
higher, and no more than a cup of water
should be between 65 and 70 de-
grees. This is important. When ready
for use a small quantity can be placed in
a shallow dish.
A paper cup, which can be easily
made, or a tin funnel is better for blow-
ing bubbles than a city pipe. With the
solution above, most beautiful bubbles can
be blown that will last several min-
utes. It is surprising how much pure in-
nocent children can get out of such
"trifles light as air."

Written for the RURAL WORLD.

LEWIS CO. LETTER.

Will you please allow me a small space
in the Home Circle? I have been a read-
er of your valuable paper for about a
year. I first saw it at my daughter's
house, and when they renewed their sub-
scription we subscribed for the paper, too.
I think that I have read your paper
before, perhaps a good many years ago,
at some friend's house, but I like it so
well now that I would not do without it.
I enjoyed Mr. Chubbuck's description of
the country as he traveled east, then
west, then south through Oklahoma, then
north. I had the pleasure of living in
Oklahoma one short year, but my hus-
band was not satisfied and we came back
to Kansas. In Kansas, in Grant county,
five miles south of Wakita, and ten miles
west of Medford; it was a beautiful coun-
try and has improved so fast. We sold
our school lease in Oklahoma and went to
Gove county, Western Kansas. I did not
like the country as well as Oklahoma—the
climate is colder and it is hard to get
trees to grow and fruit is scarce; but I
believe the time will come when Western
Kansas will be a good country. It is a
beautiful country—large rolling prairie.
I have a brother and two nephews living
on claim there.
When we were in Western Kansas,
April, 1901, we moved into my brother's
new sod house and lived there three
weeks while he hunted for a claim, but
did not find one to suit us in Western
Kansas, so we came back to Rice coun-
ty, Kansas, and remained there through
autumn and through spring. It is inspiring
to look over the wheat fields of Kansas
and Oklahoma and see the beautiful golden
grain as far as the eye can reach. My
husband thought that he would like to
live in Southern Missouri, so in the fall of

1901 we started from Lyons, Kansas, and
came east to Butler, Mo., where we
stopped and visited some friends. It
was pleasant to note the many im-
provements since I had seen Bates coun-
ty last. From Butler we went south to
Nebraska and south to the southern line of
the next county. It was through this
country that we began to notice the ef-
fects of the awful drought to Springfield,
then proceeded southeast to Springfield,
then proceeded south to Buffalo; here we
looked around a little for a claim. A man told
us that he could put us on a good claim
within four miles of Buffalo. It was Sat-
urday evening and we promised to go out
to his place, five miles from town, the
next day. The night we camped by a
nice clear creek of water and nice shady
trees; it was an ideal spot. The next
morning we started to find this gentle-
man's home. In this country there was
much rock and woods, so we thumped
along over rocky roads and wound around
through timber and over hills. It seemed
a long road, but we found his house at
last. It was about 12 o'clock when we
drove up and a boy came and opened the
gate and told us to drive in; he said that
his father gave us up and that his moth-
er and father had gone visiting. They
would be home early to take a claim
word that if we came for us to stay until
they returned. The boy showed my hus-
band where to get water for the horses.
We had our horse feed along and we wa-
tered and fed our horses. We also had a
lunch box well filled and we ate our din-
ner and I said to my husband, "Let us go
back; I don't want a claim here, nor a
cheap farm, either." We thought that we
could get a claim that would make pastu-
re land, but there was no grass growing
there, nothing but trees and thick under-
brush, and the ground was covered
with rocks. It was a very bad place, but
the people were very nice and we saw
beautiful scenery, and I enjoyed my trip
through Southern Missouri. I am sick
now and think that I will have to go
back to Kansas for my health. Daughter of
Eve, I think that I know you. I may be
mistaken, but don't think I am. I enjoy
reading your letters, also the writings of
the many other friends of the Home Circle.
Mrs. A. Greener, please write often.
I like to hear about your home in Okla-
homa. I wanted to go down there last
fall instead of coming back to Missouri.
I also read Mr. McVey's letters from
Southern Missouri. I like to read C. D.
Lyons letters, for they come from the
state of my childhood. I lived in Ohio
until I was fourteen years old and I have
many pleasant recollections of that state,
but now I prefer the prairie life of this
west.
Lewis Co., Mo. MARGUERITE.

Written for the RURAL WORLD.

THE LONG AGO.

As we sit in our day-to-day, meditating,
A great panorama of ever-changing events
pass in review before us.
The scenes of our boyhood days in Rush
county, Indiana, rise once more—the
pranks perpetrated, the summer outings,
the winter sports, the weeks at school.
Then came the cruel war, when the
pupils of the school at Carthage en-
labeled an event that has since been told
in story and in song. We became a sol-
dier in the 15th Battery, L. A., at the age
of 14 years and 7 months.

The busy scenes; the sad farewells;
the activity at Indianapolis, the months at
Washington; the "all quiet on the Potomac";
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The Pig Pen

INBREEDING OF SWINE.

Inbreeding rests first on the view that the way to obtain the best stock is to select the best obtainable animals and breed them together, thus maintaining their excellence free from the intermixture of any less excellent blood, and making of them a family of excellence. Loss of vitality and vigor has invariably characterized most attempts at inbreeding, and notwithstanding the desirable results which are occasionally obtained in some instances where this system has been practiced, practical breeders will do well to eschew any process of such doubtful expediency.

Inbreeding is not required to-day in any line of animal husbandry. Practical stockmen do not need to concern themselves with it at all. In swine breeding the greatest requirement now is for more rational systems of feeding, particularly in the corn-belt, where a too prodigal use is made of corn. There is, however, room for the exercise of more intelligence in making breeding stock, and it is commonly observed that improved breeds have the crossing of improved breeds has hogs highly satisfactory results. Poland-China sows bred to Yorkshire boars produce splendid hogs, and bred to Chester White boars they farrow profitable litters. In fact, any two of the best breeds outcrossed will produce good market hogs, but the cross should not be continued beyond the first step, else reversion will begin.

At one of the northern experiment stations Poland-China sows have been bred to a scrub or "razorback" boar captured in the Indian Territory, and the resulting pigs are said to be better market hogs than any purebreds ever raised at that station. This manner of breeding should never be carried any further than has been indicated, else it will prove very disastrous. It is all right in breeding market hogs to use a purebred boar of one breed on purebred sows of a different breed, the idea in such a case being to secure better market hogs than purebreds of either of the breeds represented would make. Swine breeders will do well never to breed hogs akin and to avoid inbreeding in any form. Whenever a boar cannot be used without mating him with some related to him he should be sold and another boar purchased. The infusion of new blood from time to time nearly always produces good results. This is the only rational process of animal improvement.

ON THE RELATIVE ECONOMY OF WINTER AND SUMMER FEEDING.

W. A. Henry, Dean College of Agriculture, Madison, Wis., writes to the "Swineherd" that the Danish Experiment Station at Copenhagen, has conducted extensive experiments in pig feeding, by order of the government. One of the studies was to determine the difference in cost of pork production in summer and winter. In these trials all of the various feeding stuffs available in the country were used, and when such feeds as skim milk, whey, roots, etc., were employed they were reduced to their grain equivalent in calculating the results. In

order that the data could be easily compared. To throw further light on the matter, the animals were separated into three groups according to their live weight. In all at least 250 pigs were fed in these experiments, so that we may place full reliance on the average secured. The results summarized are shown in the following table, which is condensed from "Feeds and Feeding":

Period of growth	Feed (grain equivalent)	Weight of pigs	Summer	Winter
35 to 75 lbs.	271	346		
75 to 115 lbs.	446	397		
115 to 155 lbs.	516	457		
Averages	444	400		

From the above we learn that where 400 pounds of feed made 100 pounds of gain in summer, 444 pounds were required for the same gain in winter. The difference is 44 pounds, or 11 per cent. These figures are for Danish conditions. In this country the winters are less severe than in the northern United States and the summers are cooler. Under the circumstances we may reasonably conclude that it requires more than 11 per cent more feed for a given gain with pigs in winter than in summer in this country.

NEW USE FOR RAZORBACKS.

The "Farm, Field and Fireside" has long believed in the razorback hog of the South; but it was in his speed, in his ability to go through any fence and his unequalled facility in rustling for his living and outwitting the darkies in reaching their sweet potato patches in spite of any fence.

Within a year or so we have published the results of the experiments at the Wisconsin Experiment Station in crossing the razorback with improved stock. The "Live Stock Journal" says the razorback had been supposed to be fit only for "crossing with fast freight trains with the object of making the railroad company pay the product at remunerative prices."

Carlyle, however, conceived the notion that his fecundity and good digestion might be put to good use. The razor-

back it runs the risk of catching the disease through a number of channels. Especially is this so when attending fairs or points where the hogs are marketed from all over the country. This is one of the reasons why there is a great deal of risk in holding a sale in Chicago, where the yards for marketing pork hogs center all the stuff from every part of the country, and it is well known that they come from the neighborhoods where disease is rampant. Where herds are shipped out frequently carrying the germs from these localities into the central point, and even if the animals did not come in contact, everybody visits the stock yards and pens and then visits the herds, thus transferring disease.

The "Swineherd," therefore, cautions farmers and breeders in all parts of the country to quarantine their new purchases, not letting them come in contact with their herds until they have gone through the quarantine safely.

Mr. E. E. Axline will make his annual sale of Poland-Chinas at Oak Grove, Mo., on Oct. 20th, of about sixty head of pigs of both sexes; and this year's offering is undoubtedly as good as he ever offered individually, and as to the breeding, when we say they are bred by Chief Perfection 2nd, Corrector, Ideal Sunshine, Winning Sunshine, Chief Bellows, R's Perfection, Mo. Black Perfection, and the \$1,000 Corrected, and out of high bred dams, you would surely expect something good and we can assure our readers that they won't be disappointed, as the offering is a good one with some extra fancy pigs of both sexes. Send to Mr. Axline for catalogue and get the breeding. We don't think there will be many sales this fall of Poland-Chinas that will have more or better lines of breeding contained in the offering than these are, and the quality is equal to the breeding.

THE RUNT PIG.

We have heard people say that a runt pig was not worth raising, and it would be better to kill it at birth. This may be true where the litter is a large one, but if the sow has milk enough for it and the other litters it is not worth killing it. Weaning time. Then take it from the others that they may not crowd it at the

gether with the weight of dry matter consumed per pound of gain, but perhaps the simplest and most direct method of showing the relative results will be to give the position from the point of view of cost of each pound of gain in each case. Contrary, no doubt, to expectation, the Cotswolds did the best, followed by the Shropshires, Lincolns and Leicesters, which were all upon pretty equal terms. Then came the Suffolks and the Southdowns, and finally the Oxford and the Dorset. Although the differences were not considerable, they were sufficient to make a marked difference in the cost of feeding and in the final profit. The greatest daily gain in weight was made by the Cotswolds, and this fact, combined with the further fact that the cost of their food was the least, gave them the advantage. The gains in weight by the Lincolns and Suffolks were next greatest, and these were practically equal, while the smallest gains were made by the Southdowns. All these figures are better than those which were obtained by Lawes and Gilbert many years ago in their exhaustive experiments, when 3 lbs. of dry matter were consumed per pound of gain. Let us, however, look at the fleeces of the different varieties. As might be expected, the Lincolns stood at the top with an average weight of 12.5 lbs., the Cotswolds being close behind with fleeces weighing 12 lbs.; then came the Leicesters with 11½ lbs., and the Oxford just below 11 lbs. All these were greater than the weights of some Merino lambs, which were fed at the same time. The Shropshire fleeces weighed 8½ lbs., the Southdowns 7½ lbs., the Suffolks nearly 7½ lbs., and the Dorsets just over 5½ lbs. There was a great deal, however, to allow for shrinkage, which varied considerably. The least shrinkage was in the Leicesters, the most in the Shropshires and the Dorsets, so that when the fleeces were valued after scouring the Lincolns still stood at the top, but the Dorsets were second, the Cotswolds third, and the Oxford fourth—Farm and Home.

PROPER COUPLING OF SHEEP.

The coupling of sheep is a subject that in many cases receives too little attention, says W. J. Clarke in "Wool Markets



Hogs Without Worms

Worms are more prevalent in hogs than in any other animal, and most hog diseases can be traced to the effect of worms. Ninety per cent. of the cases of so-called Hog Cholera are nothing more than intestinal worms. Dr. Hess' Stock Food is sold on a written guarantee to expel these parasites—and even cholera is prevented when Dr. Hess' Stock Food is fed regularly and *Instantaneous* is sprinkled in the bedding and feeding places. Dr. Hess' Stock Food gives a perfect balance of nutrition to any food, which makes profitable feeding easy. It is a wonderful tonic for all kinds of stock; it keeps hogs in perfect health, with sharp appetite and vigorous digestion.

George Stephenson, Oregon, Mo., says: "Last spring I sold two carloads of hogs that had been fed Dr. Hess' Stock Food, and they topped the market at St. Joseph. I would recommend it to my friends as a money-maker and feed saver." Ric. New, Arcadia, Ia., says: "I have used different brands of food, but as an appetizer and digester Dr. Hess' Stock Food gives me best results. It is also excellent for worms in hogs."

Dr. Hess is a graduate of both medical and veterinary colleges, and his preparations are recognized by these institutions of learning, and prescribed generally by the profession. No professional manufacturer can equal

Dr. Hess' Stock Food

the scientific compound for horses, cattle, hogs and sheep. Sold under a written guarantee, in 100 lb. sacks at \$3.00; smaller packages cost a little more. Fed in small doses. The yellow card in every package entitles the purchaser to free personal advice and free prescriptions for his animals from the eminent veterinarian, Dr. Hess. Dr. Hess' Great Stock Book, on diseases of animals and poultry, the only complete treatise for popular use, consulted and commended by leading veterinarians will be sent free prepaid, if you write what stock you have, what stock food you have fed and mention this paper. Read it and you can master all stock diseases.

C. M. McClain, veterinary surgeon, Jewettville, Ohio, says: "It is the most comprehensive work for farmers I have ever seen." H. N. Layman, veterinary surgeon, Lattasburg, Ohio, says: "In my practice I often follow suggestions given in your book."

We also make Dr. Hess' Poultry Food—see ad. and Dr. Hess' Healing Powder.

Address DR. HESS & CLARK, Ashland, Ohio.

When served, these should be removed from the main flock and put in a lot or field, and after the course of two weeks another ram, riddled with a mixture of ocher and oil, should be put with them. Any "coming around" will then be served and marked. Where the ram is somewhat inactive and easily fatigued he should be "rotted."

If you want good rape seed consult our advertising columns.

ANNUAL FALL SALE OF

POLAND CHINAS

TO BE HELD AT—
OAK GROVE, MO., Oct. 20, 1902.

I will sell 25 yearling Boars ready for use and 35 open Gilts old enough to breed. All are Choice Individuals from matured Dams and by such noted Sires as

Chief Perfection 2d, Corrector, Ideal Sunshine, Winning Sunshine, Chief Eclipse, R's Perfection, Missouri's Black Perfection, The \$1,000 Corrected.

Send for Free Catalogue giving full description and Pedigree of each individual.

E. E. AXLINE,
R. F. D. 17, OAK GROVE, MO.

PUBLIC SALE OF HIGH-CLASS

POLAND... CHINAS

AT PALMYRA, MO.,

...OCTOBER 18, 1902...

...CONSISTING OF...

A few matured Sows bred to **Protector**, a worthy son of the great **Corrector**.

16 Fall Sows bred to **Protector**, sired by White's **Black U. S.**

16 Boars and 28 Gilts sired by White's **Black U. S.**

All sows old enough will be bred to **Protector**.

The dams of the above offering are of the Teumess and Black U. S. strains, and are a well bred lot.

For Particulars and Catalogue, address

J. LEE WHITE,

COL. J. W. SPARKS, Auctioneer.

Send bids to F. A. SCOTT, care Mr. White.

ANCORA COATS FOR SALE.

I have on hand one thousand head of recorded and high-class does and five hundred wethers at Morris, Kansas, ten miles west of Kansas City. If you are in need of any kind, sort or size of Ancora Goats, you would do well to correspond with me before purchasing elsewhere.

Address: **W. T. McINTIRE,**

221 LIVE STOCK EXCHANGE KANSAS CITY, MO.

WE have 24 very fine Gilts and Sows bred; all safe, and some are farrowing now. Prices right. Come and see them or write at once.

J. T. POLLARD, Fulton, Mo.

SUNNYSIDE HERD.

Prize winning Berkshires and Shorthorn Cattle—young stock—for sale at all times. Address

HARRIS & McMAHAN, Lamine, Mo.

FINE BERKSHIRES

Of the best families at farmers' prices. Write for what you want, or, what is better, come and inspect the stock.

W. H. KER, Prairie du Rocher, Ill.

PLYMOUTH ARM CHESTER WHITES FOR SALE.—Pedigreed spring pigs of either sex; pairs and trios not skin, representing best blood lines of the breed. Satisfaction guaranteed. Can ship over C. R. & K. C. or O. R. & K. C. by express. Correspondence and inspection invited. When writing describe build of pig wanted. (Farm located one mile from Farmington and two miles from Missouri line.)

Farmington, Van Buren Co., Iowa.



TRANSPORTATION BUILDING, LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, 1904.

POLAND-CHINAS.

March, April and May Pigs. All bear the well-known Faint Herd stamp—size, quality and color. J. P. VISEERING, Box 12, Melville, Ill.

Shropshire Yearling Rams and Poland China Pigs, of either sex, of good pedigree and individual merit, are offered for sale by W. BOLDS, of Auxvasse, Missouri, who will furnish prices and full particulars on request.

READY TO SHIP high-bred Poland Chinas and O. I. C. Boars and Gilts of early spring farrow, ready to breed and eligible to record.

L. A. SPIES BREEDING CO., St. Jacob, Ill.

VIVION & ALEXANDER,
FULTON, MO.

Breeders of the best strains of Poland-China hogs. Registered Jersey cattle and Plymouth Rock chickens. Young stock for sale at all times.

FOR SALE at reasonable prices P. O's of winter and spring farrow and one good yearling boar. M. B. TURLEY, Auxvasse, Mo.

Manager strain. Barred Plymouth Rock eggs for sale for \$1.00.

C. H. JONES, R. R. 3, Pawnee, Ill.

POLAND-CHINAS. Gift-edge pedigree—good color and quality. H. L. ORMAN, Rock, White Co., Ill.

BERKSHIRES.

BERKSHIRE BRED SOWS.

Bred for early farrow; also have some choice sows ready for service. All of best breeding and individual merit. I also breed Shorthorn cattle, Shropshire and Cotswold sheep. All orders given prompt attention. Come and see or address

JOHN MORRIS, Chillicothe, Mo.

CLOVERDALE FARM HERD

Of large English Berkshire sows, best of breeding. GEO. W. MCINTOSH, Monett, Mo.

LARGE ENGLISH BERKSHIRES of best strains and individual merit. W. H. DAWDY, Greenville, Ill.

LARGE ENGLISH BERKSHIRES.—Two fine brood sows and 6 extra fine Boar Pigs large enough for service. See ad. J. B. BURGESS, Macedonia, Phelps Co., Mo.

If you are looking for fancy bred Eng. Berkshires, write me. Prices reasonable.

LARGE ENGLISH BERKSHIRE HOGS

FOR SALE. LOARN HAYES, Billings, Mo.

DUROC-JERSEYS.

Some Jersey. Some Chester White.

People are always on the gad, But once a month you'll find this ad.

Save this copy for future profit.

Monroe Co. J. E. HAYNES, Ames, Ill.

DUROC-JERSEYS.—Choice lot of Pigs; early farrow. Special prices on males.

Rose Hill Herd

Of Duroc Jersey Hogs. Sows bred for fall pigs. Boars ready for service and spring pigs now ready to ship. All from large sows of prolific families.

S. V. THORNTON,
Blackwater, Mo.

FOR SALE.

My herd boar Black Knight No. 20000 side Belle Knight No. 2070 by Black Knight 20000, dam River Belle 2010 1894 by Blumy King by King Lee. Also pigs, both sexes, out of such sows as King-core Belle 2001, Ideal Belle 2070 and Bayler Lass XV. 21328. Come and see or address

A. I. MOSS,
R. F. D. 2, Mt. Vernon, Ill.

back is notoriously prolific, and as veracious witnesses have seen him perform feats of gastronomy calculated to force goats and ostriches to suicide from pure chagrin. Carlyle, concluding the improved stock, says the cheapest and best pork we ever made was a runt pig that we killed when it weighed a little less than 150 pounds, so fat that he would not stand up long enough to eat. We never heard it equal for food—American Cultivator.

"So far as fecundity is concerned, they are superb," says Prof. Carlyle. "We had a number of fine Berkshire sows that furnished us with nothing but disappointment, but with the arrival of the razorbacks from the South this disappeared. The cross resulted in some splendid litters, and some of the best female stock we have on the farm is half razorback. They improve rapidly under domestication and make splendid mothers."

Poor bred porcine stock is often lamentably deficient both in potency and digestion. Razorback propensity is proverbial and its digestion phenomenal. The crosses are healthy in every respect. Prof. Carlyle having been successful in his breeding experiments which demonstrated that a lot of fine, but non-breeding sows really possessed merit, is now studying the digestion question with a view of ascertaining what returns the crosses will make, compared with pure breeds. He expects to fix the new porcine type.

So far the best crosses have been secured with razorback boars and Poland-China sows. The crosses are healthy, good feeders and early maturers, gains of eleven pounds per week having been recorded. Prof. Carlyle believes this blood can be used with good results on the fine-boned Poland-China of the corn belt.

The star razorback boar at the Station presents anything but a model type of hog, but as the proof of the pudding lies in its digestion, so the value of this test is determined not by appearance, but product, and a more promising lot of young pigs than those sired by the ungainly expatriated denizens of the piney woods could not be imagined.

The razorback hog is filling a long felt want in Wisconsin.

QUARANTINE YOUR HOGS.

Every indication exists at this time that there is likely to be widespread disease among hogs this fall. It has broken out in a great many localities, spread over a number of states, and while at the present time it is not severe and may be kept within bounds by prompt exertion of those whose herds are infected, it is only what we have been looking for this year, because of the anxiety of farmers to prepare for the early markets by feeding new corn too heavy, and which has invited the outbreak by putting their hogs out of condition to resist disease.

One of the things that every farmer should provide against is the bringing in to his own herd the disease through his purchases. The pig may not come from a cholera herd, but while being trans-

ported it runs the risk of catching the disease through a number of channels. Especially is this so when attending fairs or points where the hogs are marketed from all over the country. This is one of the reasons why there is a great deal of risk in holding a sale in Chicago, where the yards for marketing pork hogs center all the stuff from every part of the country, and it is well known that they come from the neighborhoods where disease is rampant. Where herds are shipped out frequently carrying the germs from these localities into the central point, and even if the animals did not come in contact, everybody visits the stock yards and pens and then visits the herds, thus transferring disease.

The "Swineherd," therefore, cautions farmers and breeders in all parts of the country to quarantine their new purchases, not letting them come in contact with their herds until they have gone through the quarantine safely.

Mr. E. E. Axline will make his annual sale of Poland-Chinas at Oak Grove, Mo., on Oct. 20th, of about sixty head of pigs of both sexes; and this year's offering is undoubtedly as good as he ever offered individually, and as to the breeding, when we say they are bred by Chief Perfection 2nd, Corrector, Ideal Sunshine, Winning Sunshine, Chief Bellows, R's Perfection, Mo. Black Perfection, and the \$1,000 Corrected, and out of high bred dams, you would surely expect something good and we can assure our readers that they won't be disappointed, as the offering is a good one with some extra fancy pigs of both sexes. Send to Mr. Axline for catalogue and get the breeding. We don't think there will be many sales this fall of Poland-Chinas that will have more or better lines of breeding contained in the offering than these are, and the quality is equal to the breeding.

Prof. Carlyle, however, conceived the notion that his fecundity and good digestion might be put to good use. The razor-

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